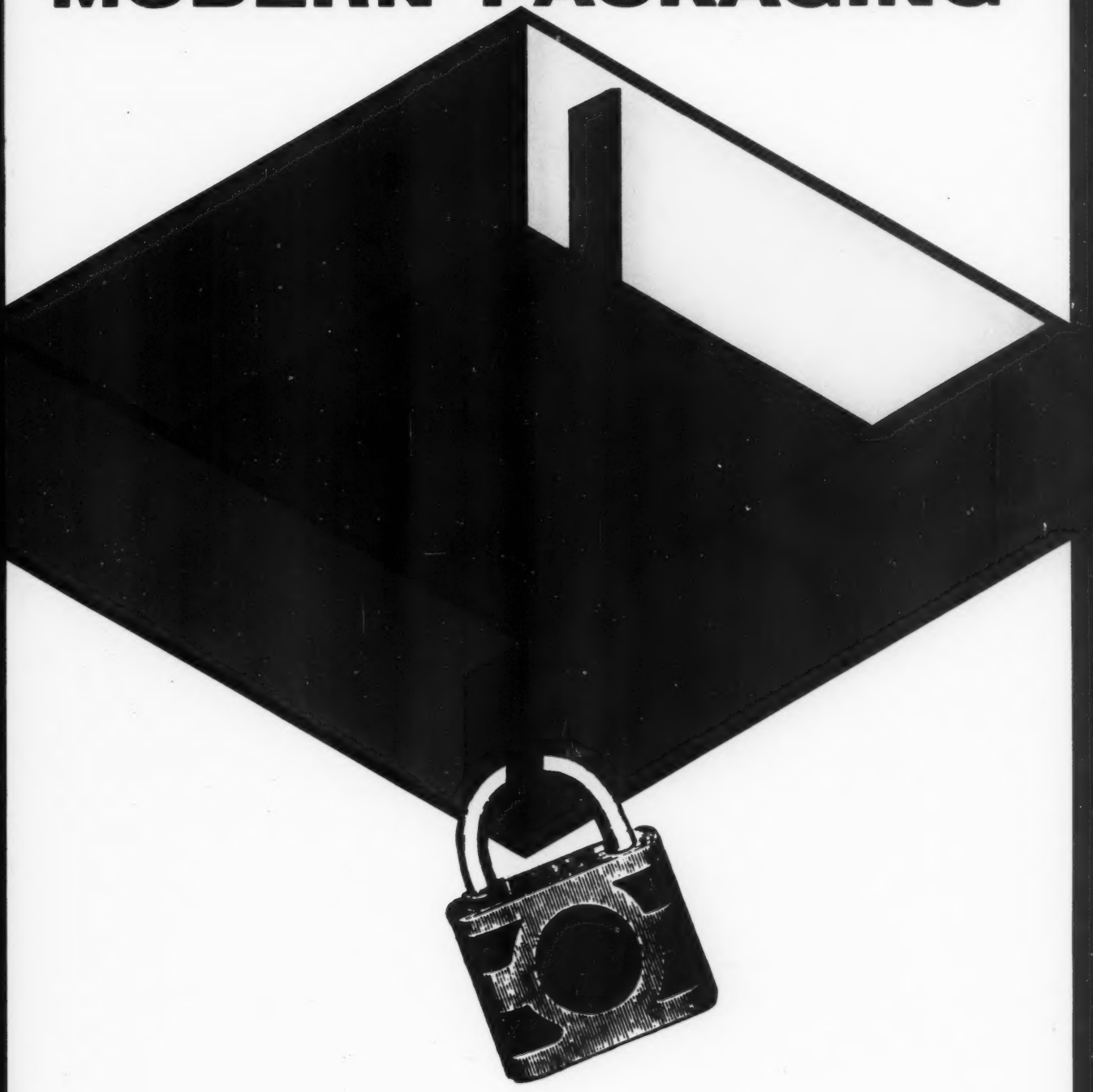
MODERN PACKAGING



DECEMBER 1960

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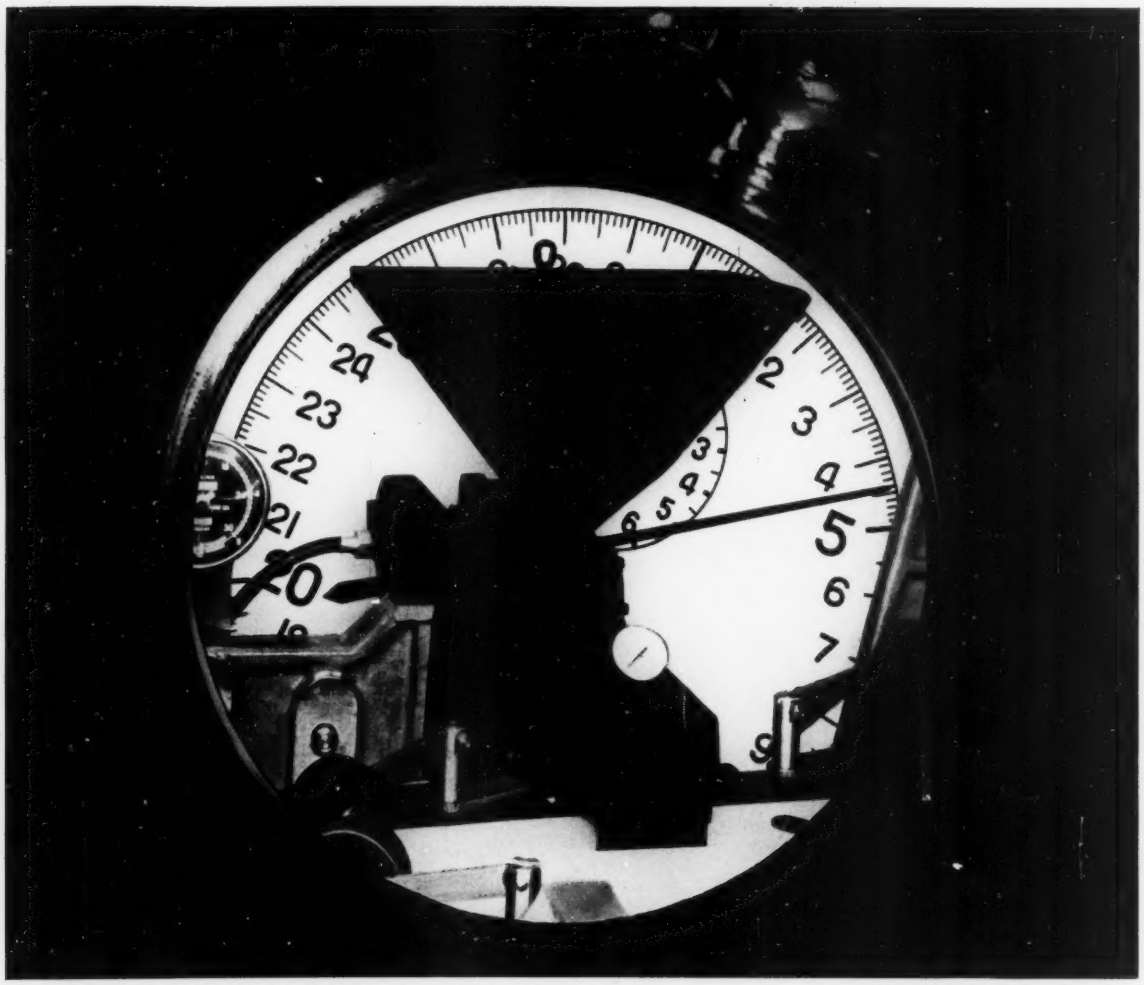
INSTANT-LOK

GRANULAR HOT MELT SYSTEM



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You name it! Polyethylene, wax paper, foil, wet strength kraft, Saran—National's INSTANT-LOK SYSTEM bonds them all, *instantly*.

The INSTANT-LOK SYSTEM consists of granular, 100% solids resin adhesive melted and extruded through the applicator pictured above. A thin, instant bonding glue line results. Instant-Lok applicators are available exclusively through National.

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GOODYEAR

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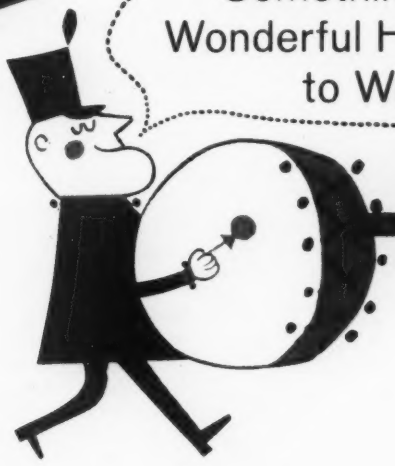

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Nonfogging film by Goodyear provides smoothest protection ever

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Now, from Goodyear, comes another VITAFILM special —VITAFILM WNF.

Made exclusively—and expertly—for wieners, this new film supplies all kinds of merchandising advantages:

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If you're packaging wieners, you'll want all the facts now on VITAFILM WNF. Get in touch with your Goodyear Packaging Representative, or write Goodyear, Packaging Films Dept. X-6418, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

Vitafilm, a Polyvinyl chloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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81 **Organizing for packaging**
Where does management of the packaging function belong in your corporate structure? There is no easy answer, but the question increases in importance as packaging looms ever larger in company operations. Here is a comprehensive report on two studies that throw interesting light on the subject and indicate trends.
General interest.

87 **First acetal aerosol**

A plastic new to packaging makes its entry as an injection-molded two-color spray bottle for Avon Products. Acetal's design qualities, ease of molding in intricate shapes, resistance to fracture, inertness and reasonable cost stamp it a promising competitor in the aerosol field. A two-tone effect is achieved by molding the teardrop-shaped container in two parts, permanently joined by spin welding.
Special interest: cosmetic, aerosol packagers.

88 **How to stop 'design drift'**
A redesign program for Peter Pan Foundations shows what an experienced designer can do to coordinate a loosely allied jumble of packages into a forceful family. The company's new line of instantly identifiable containers combines handling economy and powerful display potential
Special interest: designers, sales, advertising.

90 **Cartoning for economy**
Burroughs nets a 157% increase in output per manhour in the packaging of inked machine ribbons. The technique: conversion from hand-packed round metal cans to locking cartons filled on automatic equipment specially geared to top load awkward, cellophane-wrapped spools and to imprint detailed data on cartons.
A production-methods article.

93 **Metering re-use cap**
P&G makes a bid for supremacy in the competitive liquid-detergents field by equipping its giant-sized polyethylene bottle for Joy with a functional premium: a finger-operated plastic dispenser that measures just enough product for one dishpanful of suds. Offered as part of the original package at no extra cost, the dispenser can be applied to all sizes of Joy containers.
Special interest: drugs, soaps, toiletries.

96 **Frozen-food single wall**
Developed in England, a wrapperless waxed carton pre-printed with a hot-melt adhesive is slashing costs and simplifying frozen-specialties packaging for John H. Dulany & Sons on these shores. Its web-cornered construction prevents moisture leaks and improves barrier properties.
A production-methods article.

99 **Plastics-packaging in Australia**
Four-day national convention and other plastics-packaging events attract record number of executives from Australian states and overseas. Charles A. Breskin is awarded the John W. Derham Lecture gold medal, established in honor of one of Australia's plastics pioneers.
General interest.

100 **Multi-service portion packs**
In a significant extension of the portion-packaging principle, a Danish supermarket chain is putting up such liquid-containing "mealtime-accessory" foods as mayonnaise and catsup in family-sized film pouches. The success of these

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"Quantity or quality?"

MODERN PACKAGING, Executive and Editorial Offices, 575 Madison Ave., New York 22, N.Y. Phone PLaza 9-2710

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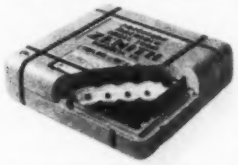
OF MODERN PACKAGING®

economical, convenient 8- to 11-oz. packages may foreshadow acceptance in the United States.
Special interest: food specialties, condiments.

102 **The lock-tab tray**
A Great Packaging Discovery. The basic idea of a glueless carton, held together by locks and tabs, goes back as far as most packaging old timers can remember. But it wasn't until the mid '40s, when the modern concept of lock-tab tray construction was parlayed with high-speed mechanical handling, that it really captured the imagination of packagers. Today the principle has been extended to full lidded cartons for a host of products, including frozen foods.
General interest.

108 **Economical all-foam case**



The ultra-light weight and inherent formability of expandable polystyrene are applied to a multi-product shipper by W. H. Nichols Co. for Zenith. Incorporating a rigid two-piece shell and six interchangeable cushiony inserts, the container offers low-cost protection against moisture and handling damage to 36 different combinations of delicate, precision-machined pump parts.
Special interest: hardware, appliances, glass.

110 **Automatic inserter**
How can printed p-o-p material be placed most efficiently in big runs of shipping cases? Prestone provides a cost-saving answer via a roll-feed machine that automatically positions sets of intricately combined wire-bound radiator tags and product brochures. The technique can be adapted to a wide range of merchandising aids.
A production-methods article.

114 **PI looks at packaging to come**
Packaging specialists from across the country gather in New York's Statler Hilton Hotel for the 22nd annual Packaging Institute Forum. Here is an interpretive report of the meeting and the papers delivered at its 13 seminars.
General interest.

TECHNICAL & ENGINEERING

121 **High-density PE containers**
Part I of a two-part article. The tremendous acceptance of high-density polyethylene bottles has pushed these containers to the forefront of many user-companies' packaging plans. Here, as a basic guide to users, is a practical engineering discussion of the selection of raw materials and of special design considerations. (Package evaluation and test methods will be discussed in the next issue.) *By Brooks B. Heise, J. H. Parliman and Jules Pinsky.*

127 **Antioxidant cellophane**
Out of painstaking laboratory research, Olin Mathieson has produced an antioxidant cellophane that greatly restricts the development of oxidative rancidity in high-oil-content foods. This in-package protection is achieved by incorporating a combination of F&DA-acceptable chemicals into the nitrocellulose lacquer used to coat standard cellophane. *By R. Henderson, G. A. Wallace and R. H. McKillip.*

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Coming full gallop, his face hidden by a closed helmet, and amidst the noise and dust of the field — you could nevertheless *instantly identify* the man — by the marking emblazoned on his shield, on the coat over his armor, on his horsecloth and on his banner. Such highly useful, *individual* identification by heraldic markings began 6000 years ago — and exists today in forms as familiar as the American eagle.

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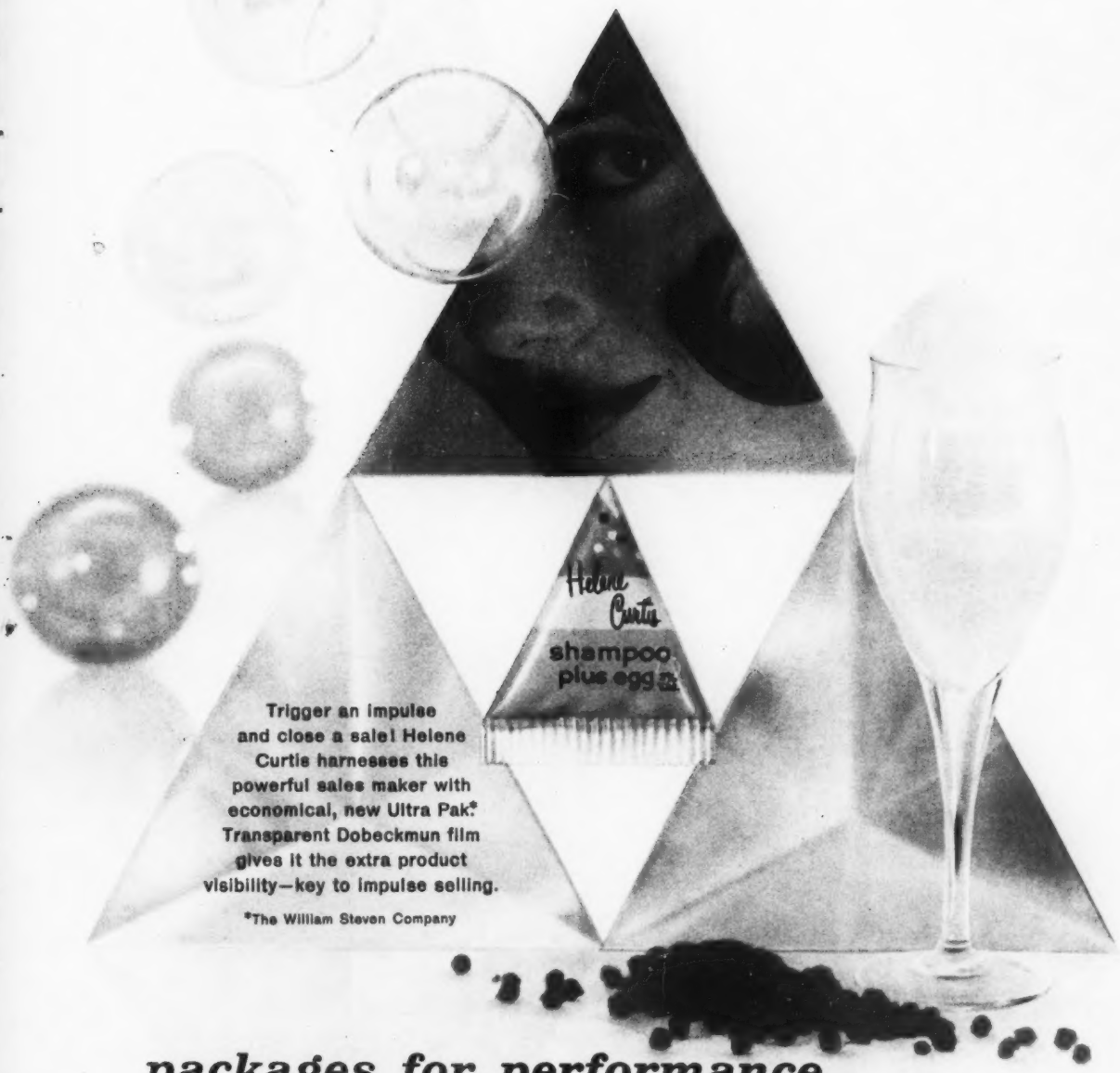
MARKEM HELPING YOUR PRODUCT SPEAK FOR ITSELF



Trigger an impulse and close a sale! Helene Curtis harnesses this powerful sales maker with economical, new Ultra Pak.* Transparent Dobeckmun film gives it the extra product visibility—key to impulse selling.

*The William Steven Company

packages for performance

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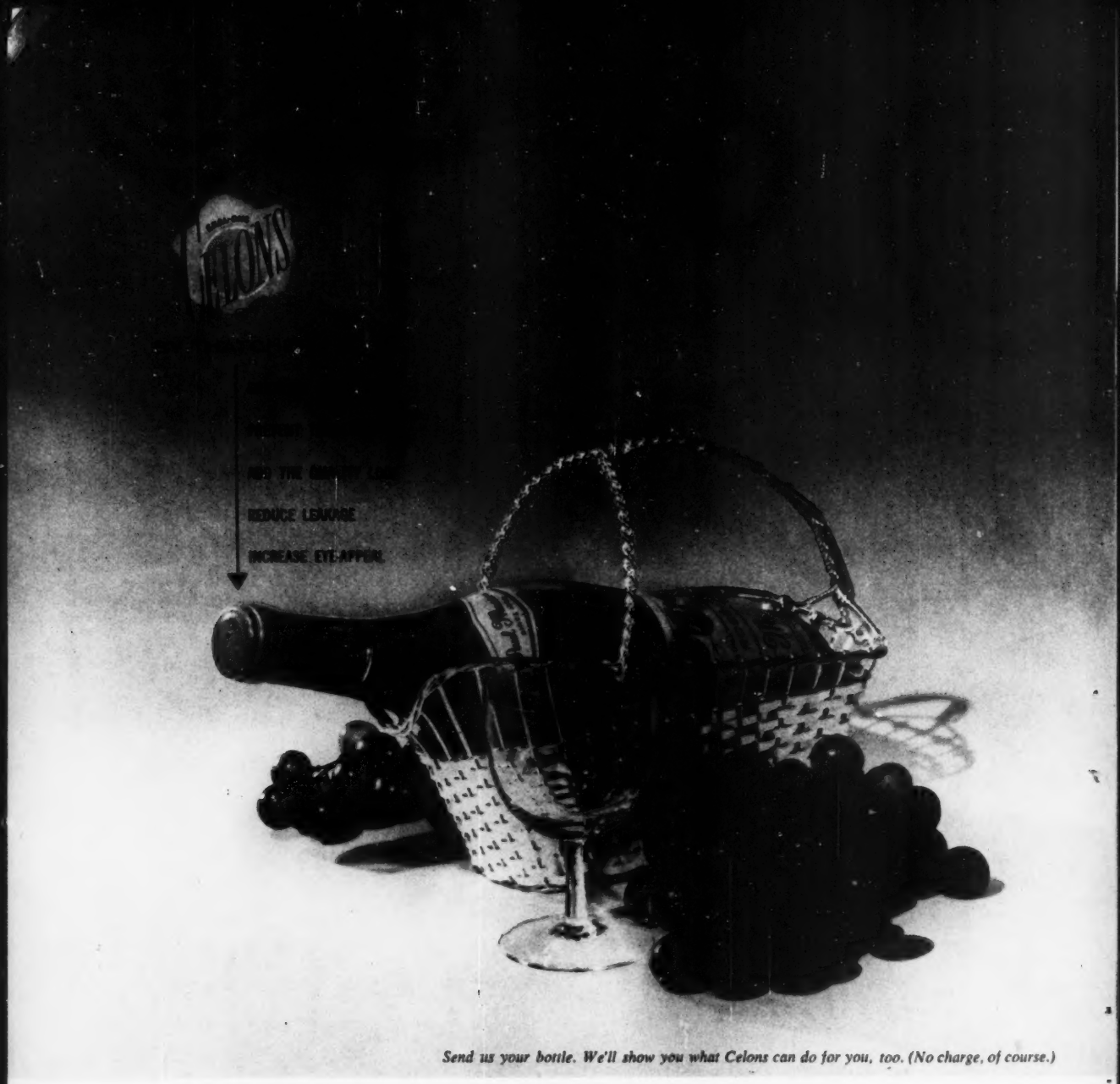

Send us your bottle. We'll show you what Celons can do for you, too. (No charge, of course.)

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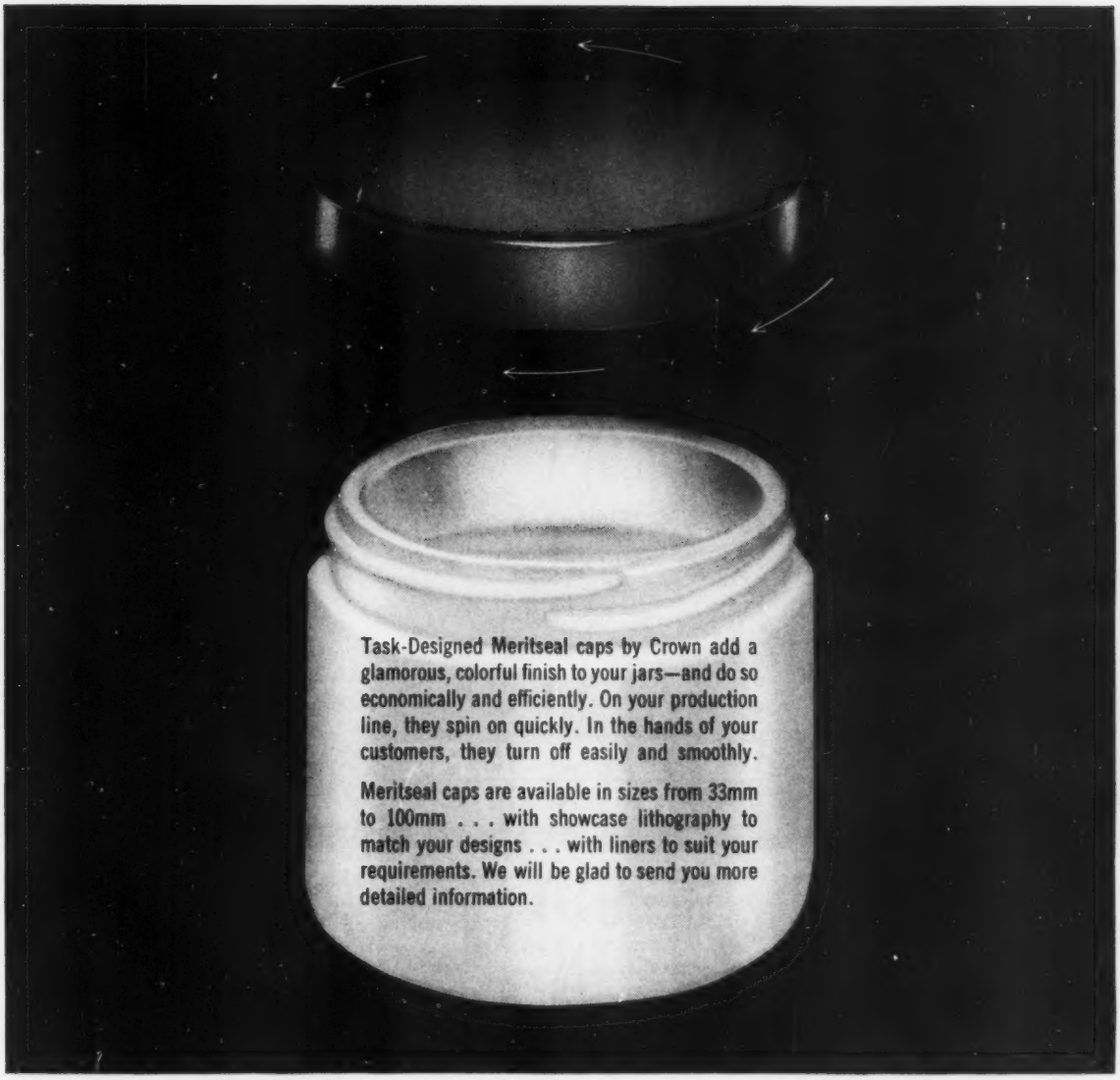
for easy application and removal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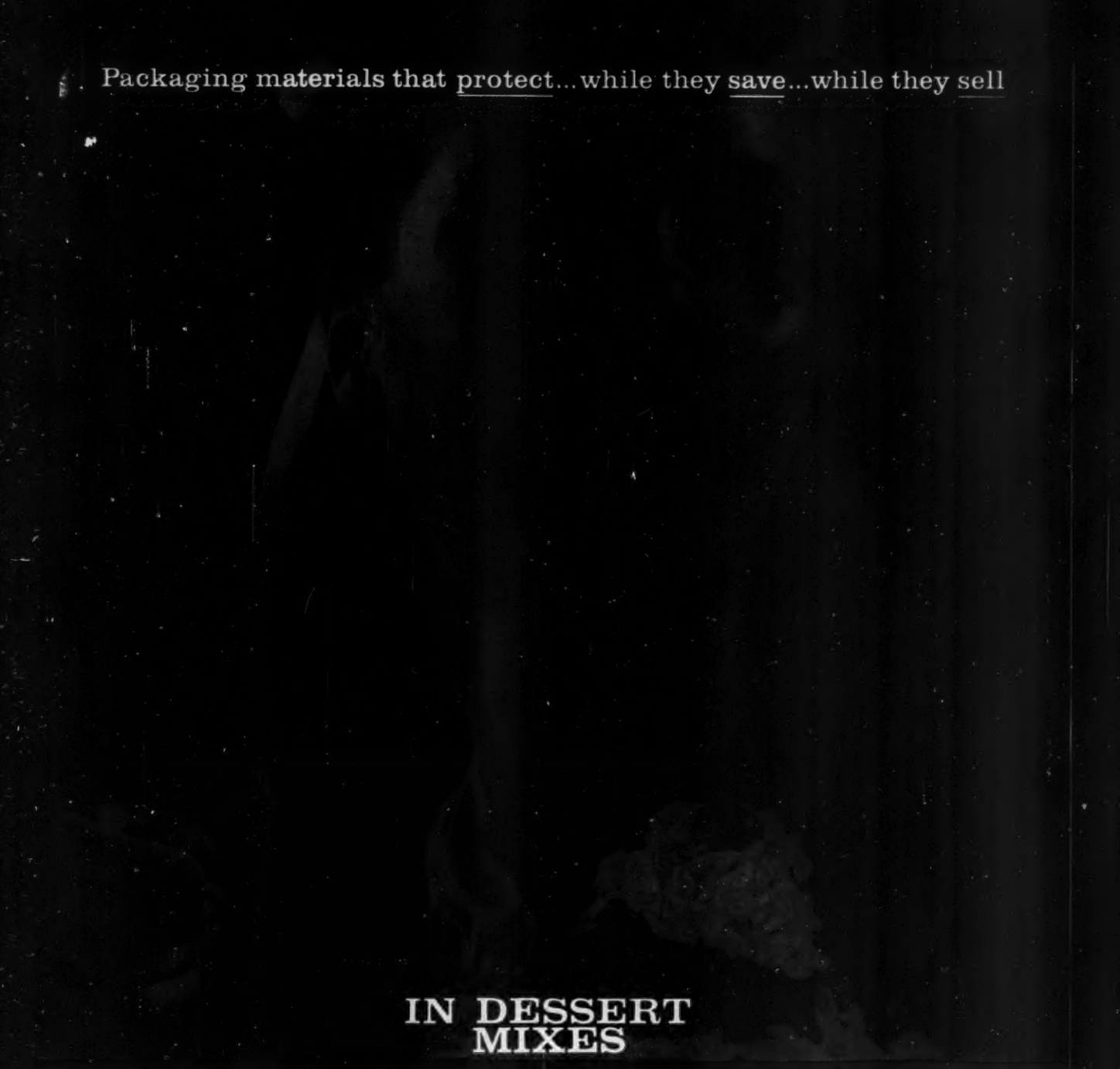

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ONE OF THIRTY-THREE Cameron 505R completely integrated unwinding, slitting and roll winding systems which have recently been installed at several plant locations by a producer of cellophane and plastic films. The operation shown here runs 24 hours a day, 7 days a week, on mil and mil-and-a-half cellophane.

What makes **The New Roll** *run so fast?*

Printers and converters who have used *The New Roll* in papers, films, foils and laminates ask: How can it run so fast without web breaks? Why does it feed out so smoothly right down to the core? How does it keep the web so "live" for better end results, rather than stretched out "dead" in the roll?

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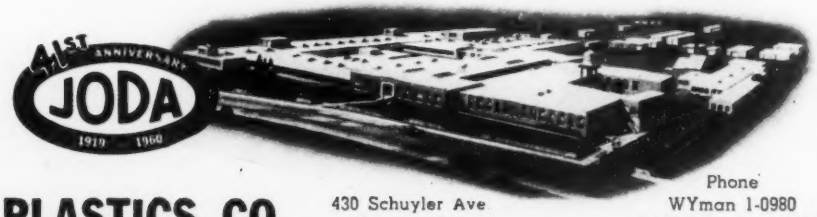

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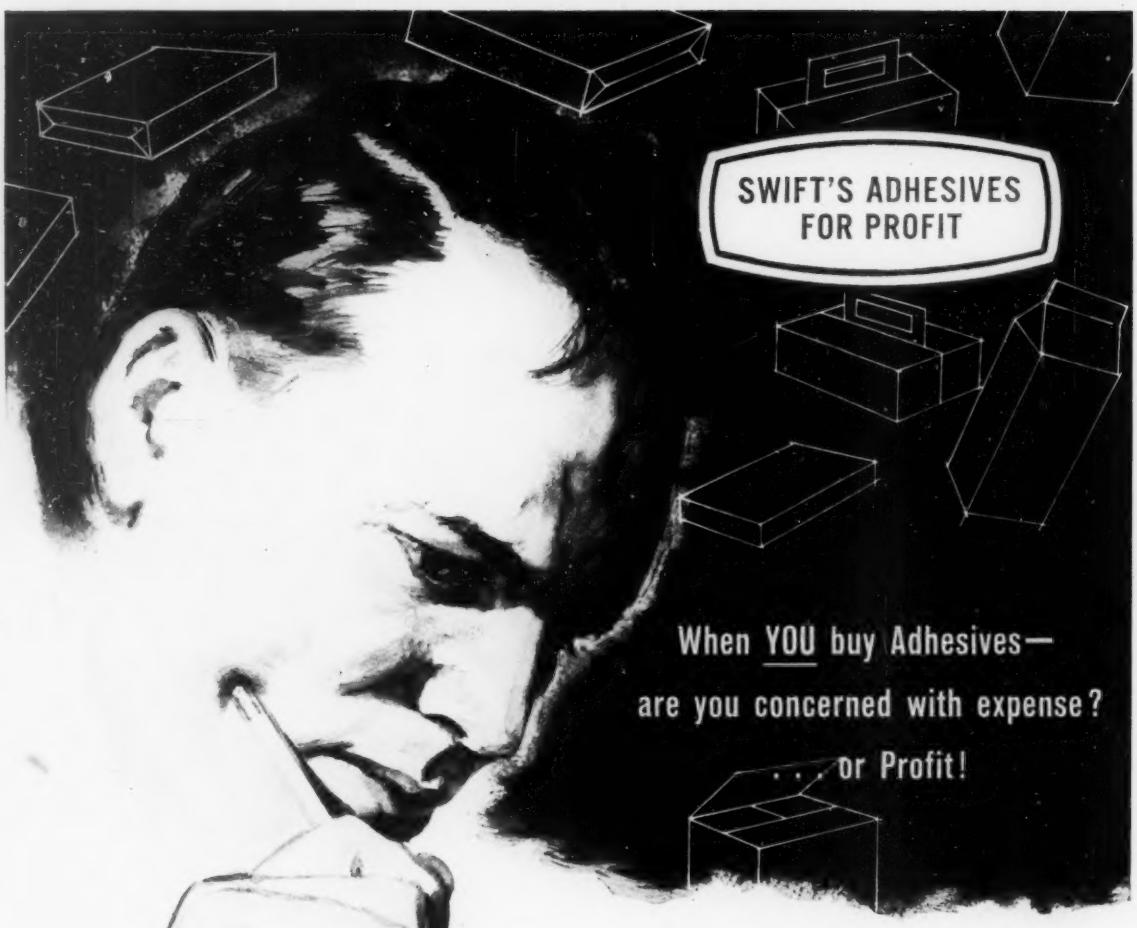

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A-55

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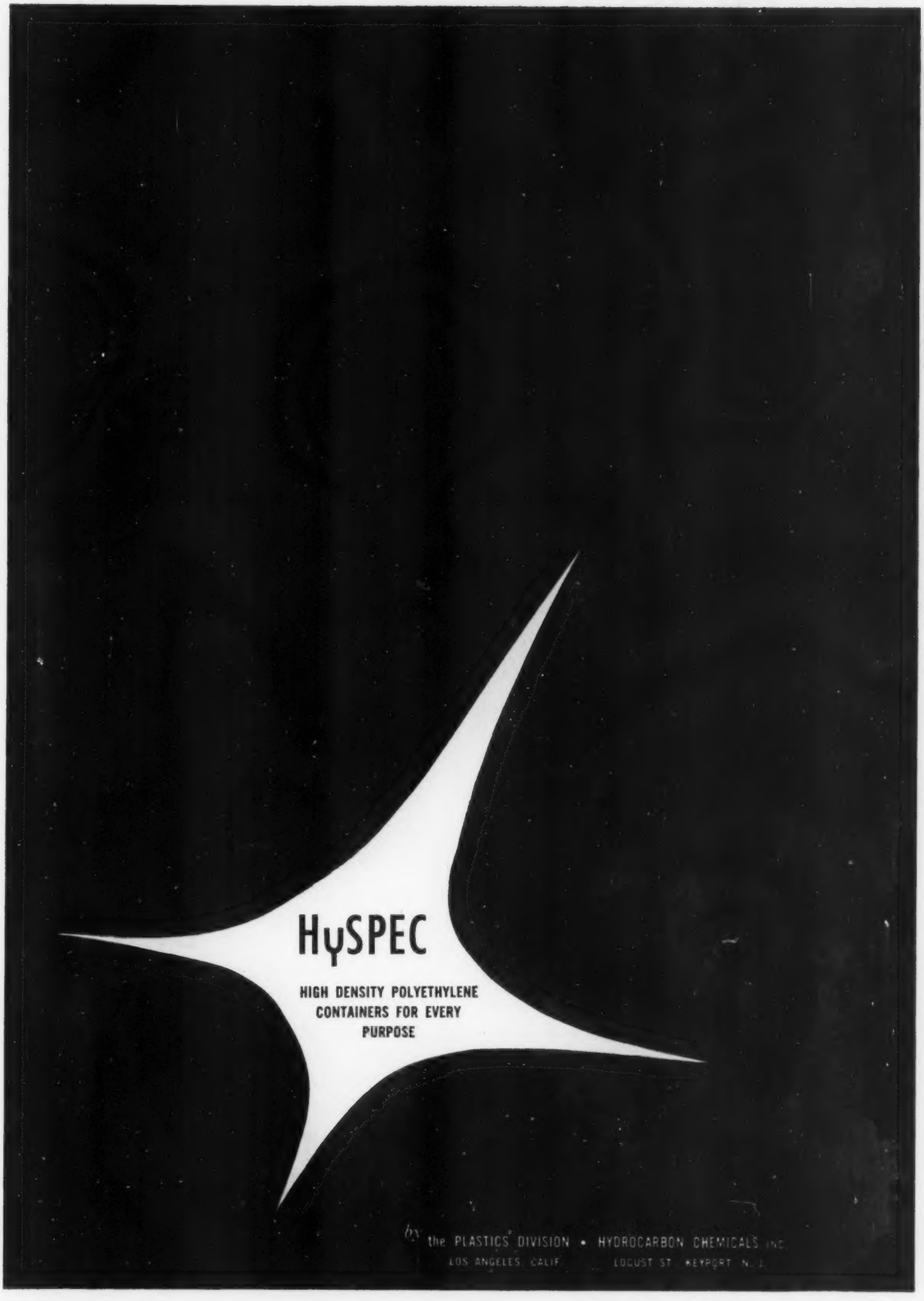
REYNOLDS ALUMINUM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that mint the profits for SCHRAFFT'S®

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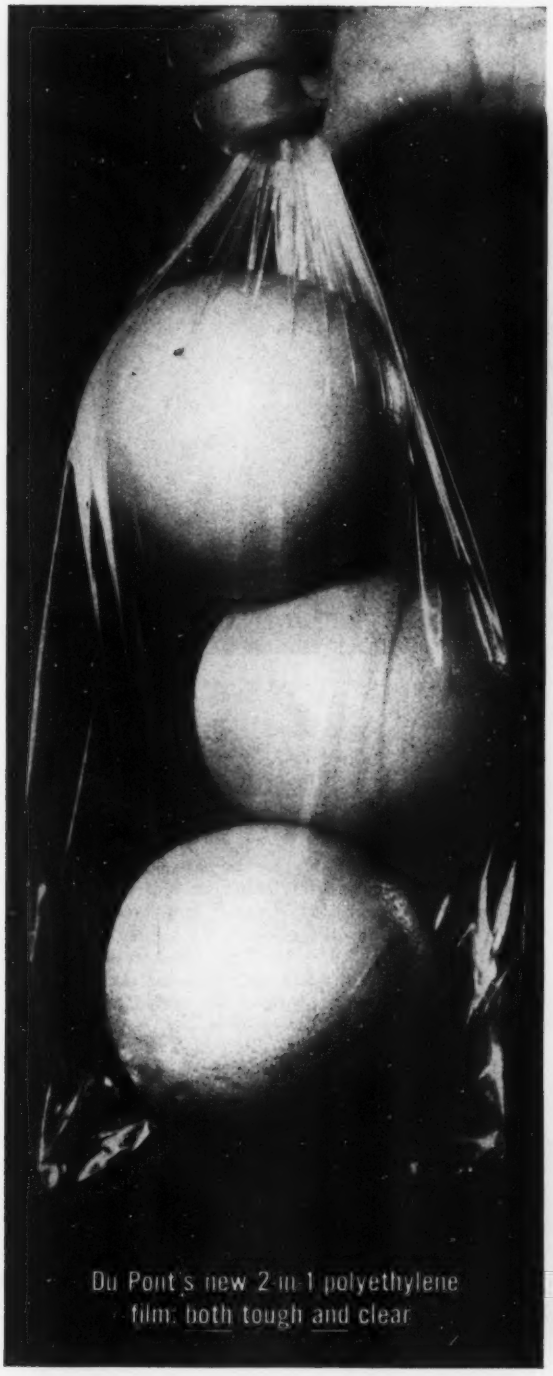
DU PONT polyethylene film

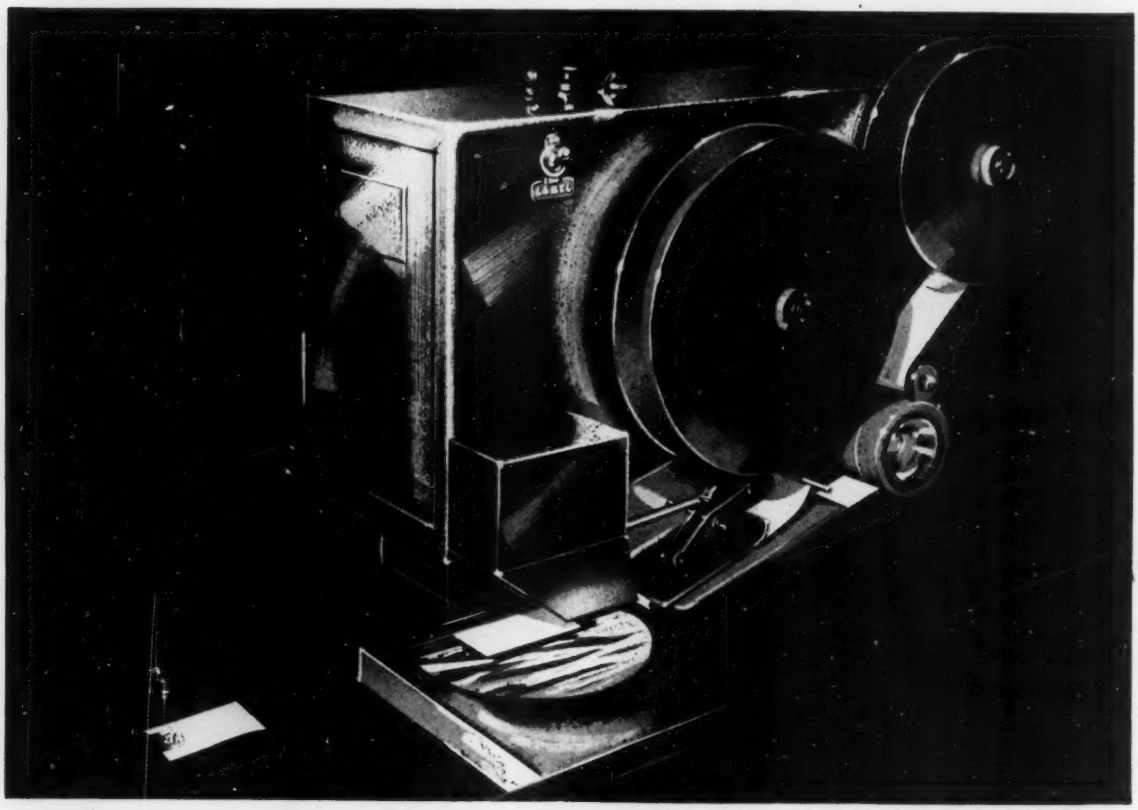
PARE



Du Pont's new 2-in-1 polyethylene film: both tough and clear

Competitive polyethylene film: tough but hazy

FROM KLEEN-STIK .....WORLD'S FIRST "JET-ACTION" AUTOMATIC PRESSURE-SENSITIVE LABEL APPLICATOR!



kleen-stik® "LABEL-AIRE"

JET-FAST . . . JET-SMOOTH . . . JET-PERFECT!

Actually picks up and applies labels by "AIR-JET" Action!

1 In-coming air jet picks up label as it peels off backing

2 As package or product trips micro-switch, reverse (outgoing) air jet "shoots" label into exact position

Here's the machine that brings new speed, ease, and economy to pressure-sensitive labeling on the production line. Unlike "conveyor-type" applicators which pull the label from the backing by adhesive tension, the Kleen-Stik "Label-Aire" operates on an entirely new "jet action" principle. Manufactured to highest quality standards . . . thoroughly tested for reliability . . . *guaranteed* by Kleen-Stik.

No Heat - No Water - No Glue - No Hand Operations!

kleen-stik® PRODUCTS, INC.

7300 West Wilson Ave. • Chicago 31, Ill.

Plants in Chicago, Newark, Los Angeles, and Toronto, Canada

- Handles Kleen-Stik Roll Labels from ½" to 3" wide
- Labels any material . . . . any shape of package
- Perfect registration—adjustable to any production line speed
- Compact . . . lightweight . . . easy to use
- Available on lease — no heavy investment

Write for complete details on the new Kleen-Stik "Label-Aire"

OVER 25 YEARS OF PRESSURE-SENSITIVE LEADERSHIP!

B-G 29092

Bold aluminum packages... pioneered by Ekco-Alcoa

Were it not generally accepted that unusual packages stimulate sales, most products probably would be merchandised in brown paper sacks.

The rub is that in the quest for packaging non-conformity, the unconventional often tends to look conventional.

Ekco-Alcoa aluminum packages, however—like the Ribfoil containers pictured here—are strikingly unconventional. Bold. Unique. Capable of being made in a thousand shapes, sizes, colors; with intriguing characteristics peculiar to aluminum. Ideal for an endless range of premium products—from cosmetics to shoe polish, from tobacco to deodorants.

They're made to order. We take your packaging problem—design, test—and transform it into a bold, exciting aluminum package that fits your exact needs. And we can do this on a low-cost-per-unit production line basis.

The result is a package that is undeniably new . . . undeniably your own. For particulars, get in touch with . . .

EKCO-ALCOA CONTAINERS INC.

WHEELING, ILLINOIS • WHITTIER, CALIFORNIA • LONG ISLAND CITY, NEW YORK

The Plus Container

EKCO is the registered trademark of Ekco Products Company. ALCOA is the registered trademark of Aluminum Company of America. The corporate name and combination mark, EKCO-ALCOA, is used under license to the manufacturer by each of these companies.

Pick a Number!

There are only four basic numbers in Fenwal's new "500" Line of Electronic Temperature Controllers and Indicators. But they provide industry with a broad choice of instrumentation *not available elsewhere!*

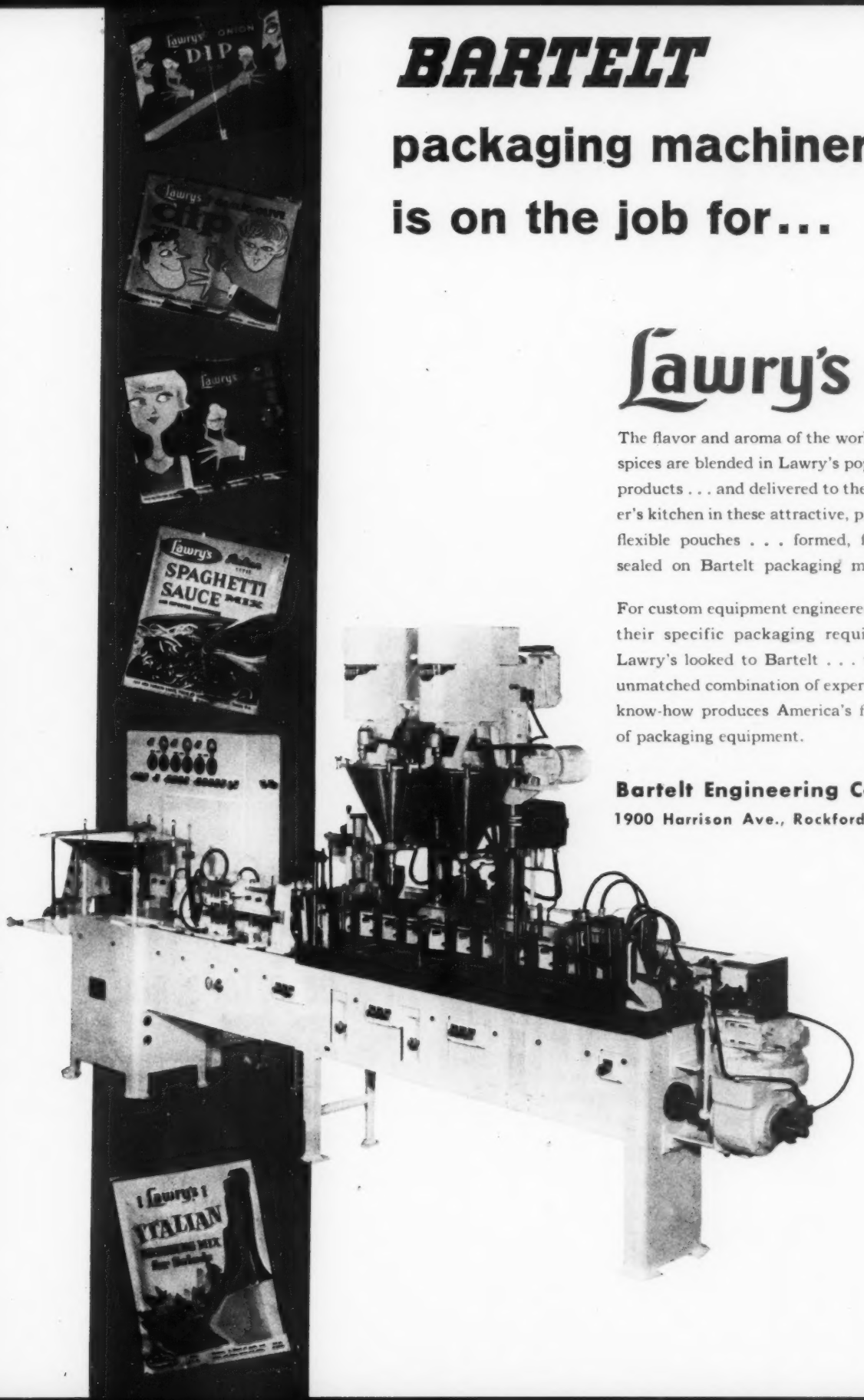
For example, a packaging machine manufacturer might have the problem of controlling 6 heater blocks on a unit capable of sealing a variety of films. He'd want separate control of each block — 3 "ON-OFF" and 3 proportioning — with remote adjustment of control. The Fenwal 536 Controller would give him all this. For indication during periodic checks, he'd simply add the 580 Indicator. *Price? Extremely reasonable!*

Again, take a packager whose machines are heat-sealing an easy-to-handle film. Suddenly his market requires running a film sealed under *much closer* temperature control. Using a "536" he'd get precise proportioning control with adjustment at the instrument or remote . . . indication by adding a "580". Or, with the "561" he'd get *all* functions in a single package. In any case, *he'd buy only what he needed.*

Another manufacturer whose needs are only indication, might select the 582 Thermometer. And there are many *modifications* and *combinations* possible. Why not make *your* choice from these "Smarter Looking Smarter Acting" Fenwal Instruments? Write for Bulletin MC-190. FENWAL INCORPORATED, 612 Pleasant Street, Ashland, Massachusetts.

Another example of how

Fenwal CONTROLS TEMPERATURE . . . PRECISELY



BARTELT

packaging machinery is on the job for...

Lawry's

The flavor and aroma of the world's finest spices are blended in Lawry's popular mix products . . . and delivered to the consumer's kitchen in these attractive, protective, flexible pouches . . . formed, filled and sealed on Bartelt packaging machinery.

For custom equipment engineered to meet their specific packaging requirements, Lawry's looked to Bartelt . . . where an unmatched combination of experience and know-how produces America's finest line of packaging equipment.

Bartelt Engineering Co., Inc.
1900 Harrison Ave., Rockford, Illinois

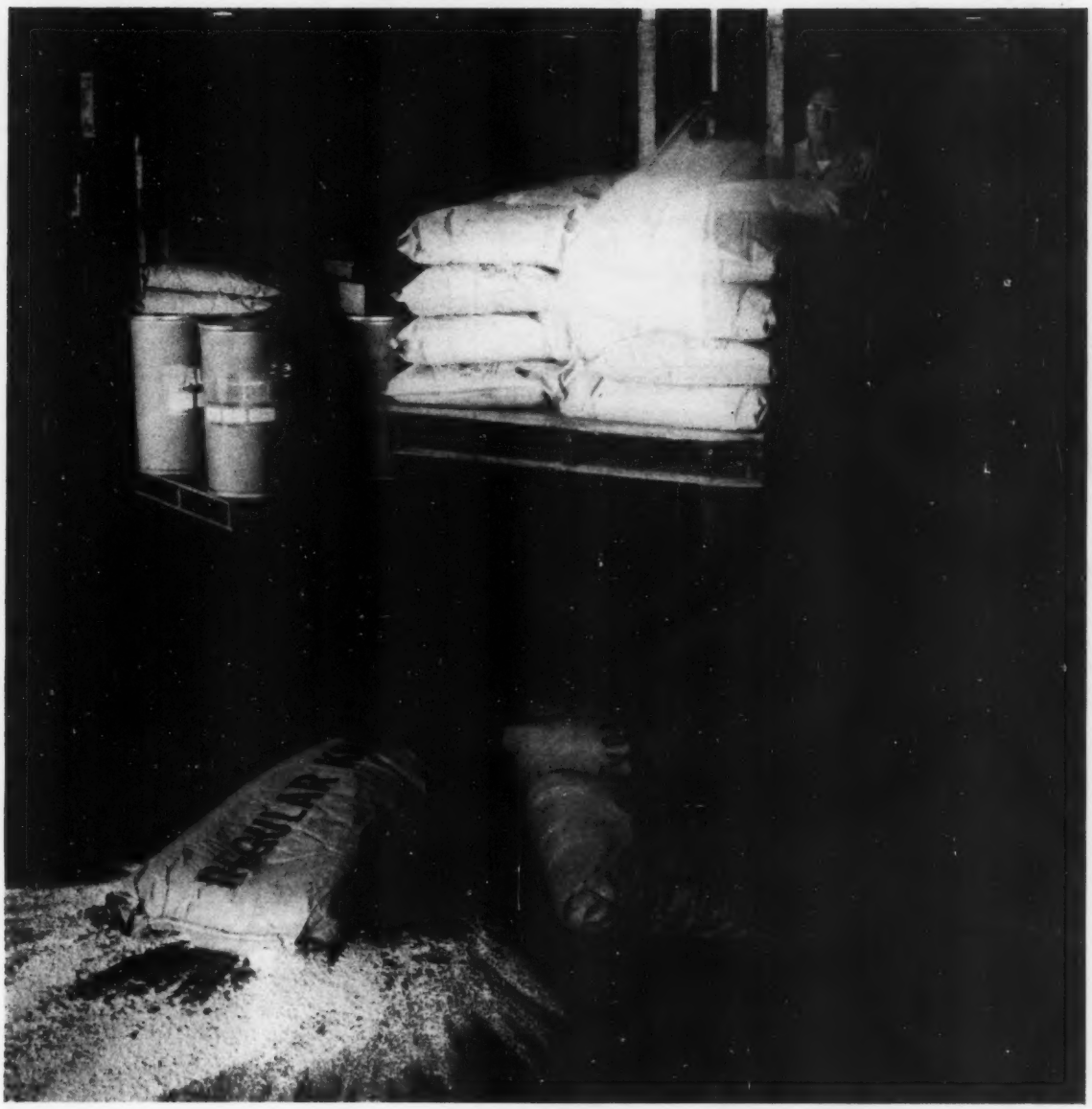
HOW MUCH DOES A CONSUMER COMPLAINT COST?

A LITTLE CARE IN THE CHOICE OF YOUR SUPPLIER WILL GO FAR IN CUTTING COMPLAINTS AND REJECTS.

That's why Precision Valve Corporation takes a lot of care in processing their valves . . . quality controls at every step of the way reduce the chances of rejects to a minimum, and continuing research reduces the minimum.

Take care... take Precision Valves for your aerosol products.

PRECISION VALVE CORPORATION
700 Nepperhan Avenue, Yonkers, N.Y.



One bag shattered . . . the other has two-way stretch

The *unbroken* bag is made of H&W's new high-strength Expanda-Kraft.

As the lift truck braked to a sudden stop, both bags flew through the air and fell hard against the concrete floor. The regular kraft bag split open — note the spilled flour. Yet, look closely at Expanda-Kraft. *Not a sign of breakage*! Naturally, both bags were identical in basis weight and number of plies.

Expanda-Kraft is stronger, because it's made by a special roll-crepe process. It's resilient, has two-way stretch that soaks up shock. Available in white, semi-bleached and natural.

Expanda-Kraft comes in 40, 50, 60, 70, 80 and 100-pound basis weights. *For samples and information*, write Hollingsworth & Whitney, Division of Scott Paper Company, Chester, Pennsylvania.

EXPANDA-KRAFT®

HOLLINGSWORTH & WHITNEY DIVISION OF
SCOTT PAPER COMPANY

"BULGING"
IS FINE

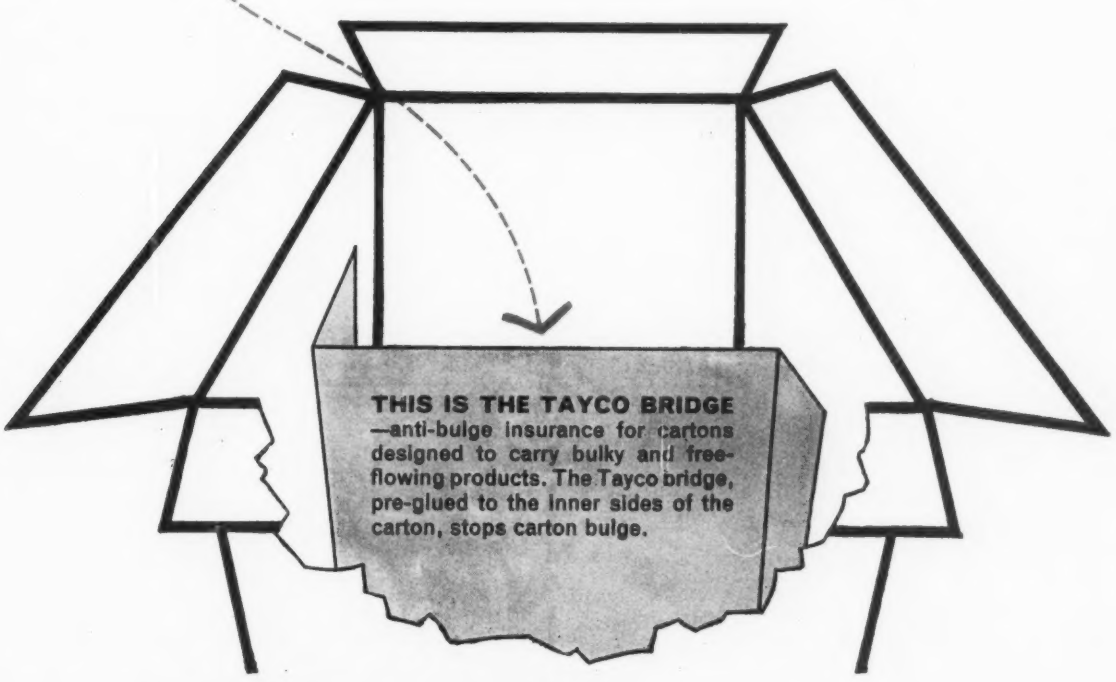
(in a bulldog, that is)

...BUT NOT
IN A
CARTON!

How to prevent carton bulge

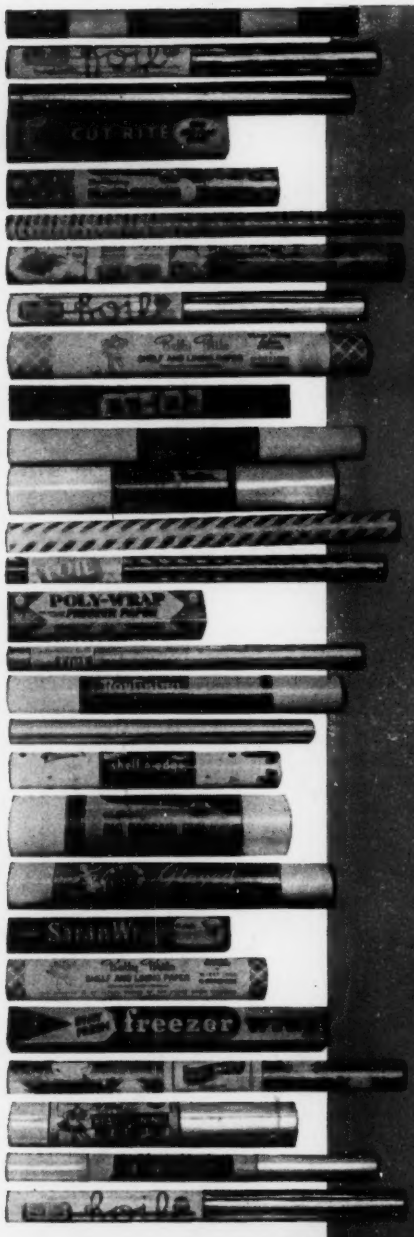
with the Tayco bridge

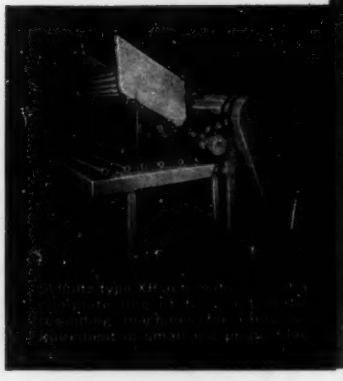
Marathon's Tayco cartons have a hidden inner bridge that does away with "bulldog bulge." With the Tayco bridge, side walls always stay perpendicular; cartons look better, stack straighter, overwrap tighter. Ask your Man from Marathon to tell you how the Tayco principle cuts down on paperboard caliper . . . and final costs. Marathon, A Division of American Can Company, Menasha, Wis. In Canada: Marathon Packages Limited, Toronto 3.


THIS IS THE TAYCO BRIDGE
—anti-bulge insurance for cartons designed to carry bulky and free-flowing products. The Tayco bridge, pre-glued to the inner sides of the carton, stops carton bulge.

For packaging . . . and ideas . . .

you can't beat marathon





Schultz

KEEPS 'EM ROLLING...

faster, better!

When it comes to rapid, quality production of small rolls, Schultz Automatics represent the soundest, finest investment you can make. With this equipment, you can produce rolls *fully* automatic at a rate of up to 40 rolls per minute.

IF YOUR PRODUCT IS IN ONE OR MORE OF THE FOLLOWING PRODUCT CLASSIFICATIONS, THERE'S A SCHULTZ AUTOMATIC JUST FOR THE JOB:

Household Foils
Gift Wrappings
Shelving Papers
Household Films
Waxed Papers

Carton Rules
Sealing & Cushioning Materials
Shipping Papers
Laminated Papers
Adhesive Coated Materials
Paper Materials

MANUFACTURED AND SOLD EXCLUSIVELY BY

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engineering corp.

190 BANKER STREET • BROOKLYN 22, N. Y.
EVergreen 3-1541

THERE IS A SCHULTZ AUTOMATIC TO MEET ANY PACKAGING OR ASSEMBLY REQUIREMENT. USE THE SCHULTZ PLANNING AND ENGINEERING SERVICE TO GET THE RIGHT SOLUTION.

Ridgelo
CLAY COATED
WHITE BAK

Supermarket
FOODS AND HOUSEHOLD SUPPLIES

DRUG STORE
PHARMACEUTICALS—COSMETICS

Confectionery
CANDIES & CAKES

Now More Than Ever, The Economical Boxboard For Cartons That Require "Two Sides White"

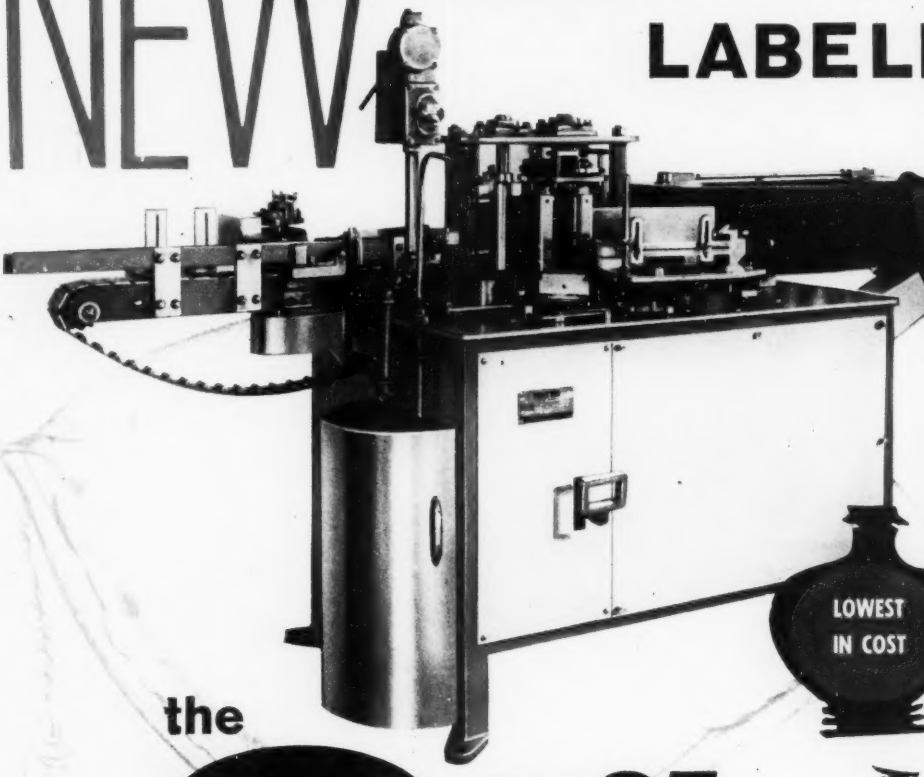
With a price advantage in most items, Ridgelo White Bak also is *superior* to bleached sulphate boxboards in many important qualities. Its glossy outside finish is wonderfully smooth and easy to print. Its "inside story" is clean, white, and attractive. And Ridgelo White Bak has the rigidity and snap to make cartons that fill easily, stack well, and give complete satisfaction. Available in .014 to .030 thicknesses, for prompt delivery on even small orders, Ridgelo White Bak will help you *save* money in packaging, help you *make* money in selling. If you'd like to see samples, and an interesting test report, just write for them.

Ridgelo CLAY COATED PRODUCTS

LOWE PAPER COMPANY
RIDGEFIELD, NEW JERSEY

REPRESENTATIVES / Detroit—Joseph P. Giroux / Los Angeles—Norman A. Buist / Philadelphia—Philip Rudolph & Son, Inc. / St. Louis—A. E. Kellogg

NEW THE VERSATILE Prince OF A LABELER



CONTINUOUS MOTION

FULLY AUTOMATIC

LOWEST IN COST

CHANGEOVER IN A JIFFY

SIMPLEST DESIGN

MOST POPULAR SHAPE CONTAINERS

SINGLE PANEL LABELS TO 7" LONG

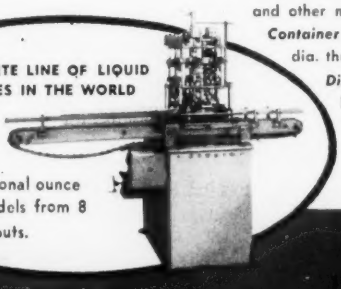
the mrm SL-85

Ready, willing and able to handle any and all labeling jobs. Unusual container shapes don't frighten the SL-85. It takes squares, rounds, triangles, flushes, recesses...with equal ease. And it isn't fussy whether the container be glass, metal, plastic or board. The SL-85 can be close coupled to filling and capping equipment, of course. Write or phone for a sales engineer.

Specifications: ***Label Range:*** From "postage stamp" size to 6" wide x 7" long.
Production: Variable speed drive from 45 to 85 per minute.
Label Materials: Foil, paper, plastic and other materials.
Container Range: ¾" high x 1" dia. through 14" high x 7" dia.
Dimensions: Overall length, including conveyor 90". Width 28". Height 56".
Changeover Time: Approximately 15 minutes.

MOST COMPLETE LINE OF LIQUID FILLING MACHINES IN THE WORLD

To handle all types of foamy and still liquids, from fractional ounce to carboys. Models from 8 to 60 spouts.



mrm COMPANY, INC.

INTERNATIONAL PAPER—The Ultimate Source

How to guarantee a strong, uniform paper bag

(You can get one every time—thanks to International Paper)

Read why International Paper's Gator-Hide is the world's most widely used kraft paper.

International Paper makes Gator-Hide into billions of grocery, department store, bakery, produce and garment bags. Bags of every description.

Industry also relies on this versatile Gator-Hide line for a myriad of converting uses.

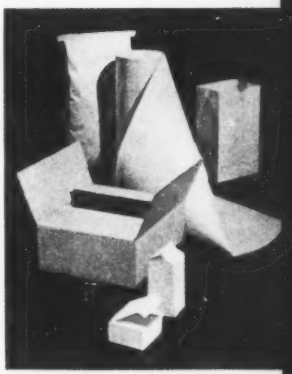
How does International Paper's Gator-Hide put strength into a paper bag? Into paper packaging of all kinds?

For over 30 years, International Paper craftsmen have built strength *into* this kraft paper by carefully controlling every step of the paper-making process. From seedling to finished roll. A roll that always meets exacting specifications.

The future of this strong wrapping, packaging and converting paper is unlimited. Its versatility will contribute to the science of packaging for years to come.

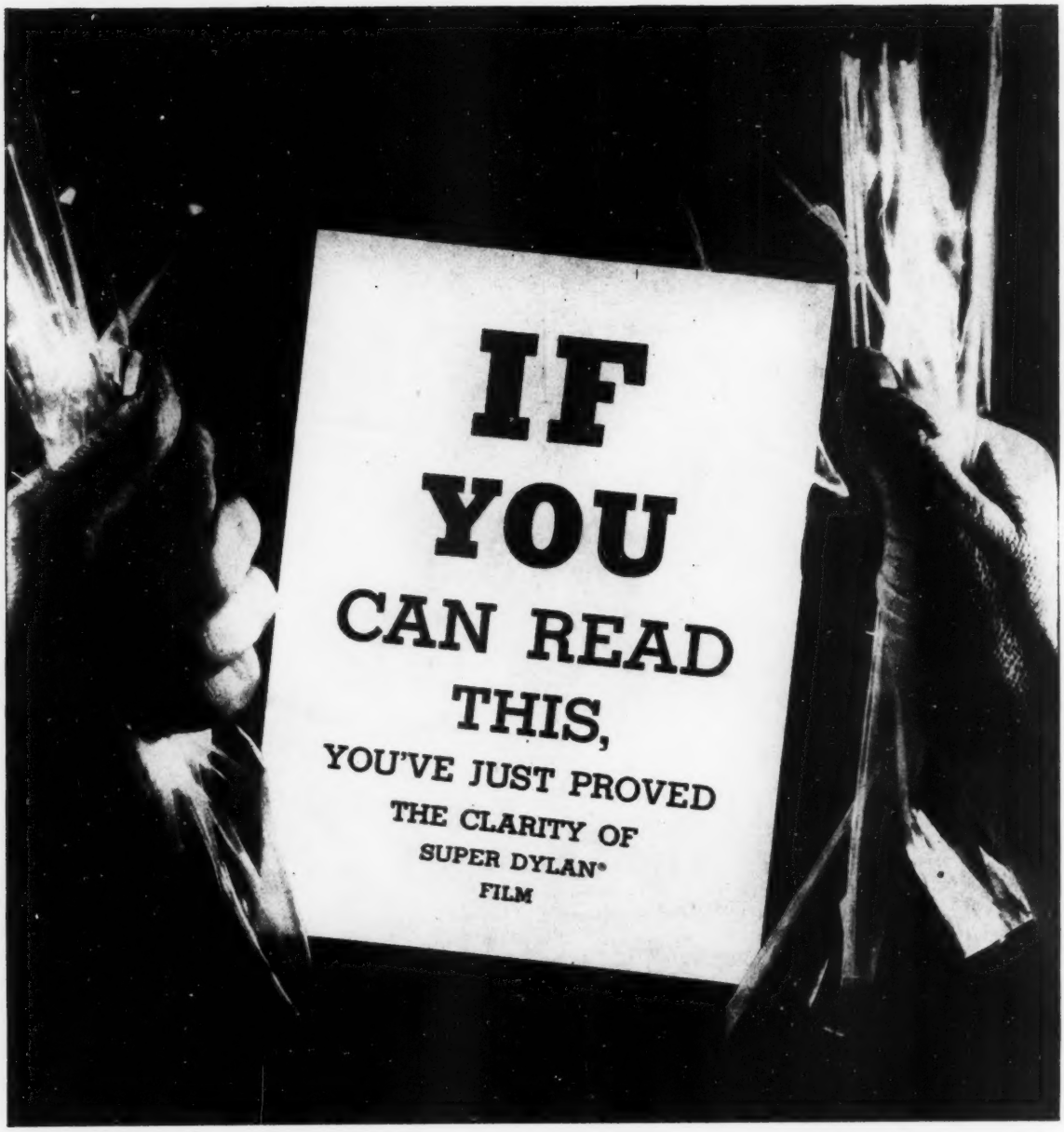
Last year, our staff of 322 package and research counselors answered outside inquiries at the rate of one every seven minutes.

International Paper can provide you with the widest range of papers, boards and packaging assistance in the industry. Call us or contact your paper merchant or converter—he's probably been doing business with us for years.



INTERNATIONAL PAPER New York 17, N.Y.

Manufacturers of papers for magazines, books and newspapers • papers for home and office use • converting papers • papers and paperboards for packaging • shipping containers • folding cartons • milk containers • multiwall bags • grocery and specialty bags and sacks • pulps for industry • lumber, plywood and other building materials



SUPER DYLAN® film gives your products added sales appeal!

Compare it to other films . . . you'll see that it has outstanding clarity and gloss. If you use the older type of clear, crisp wrapping, compare its cost to film made from SUPER DYLAN polyethylene. You'll find that SUPER DYLAN film can save you up to $179.00 for each 1000 pounds of wrapping you now use. A year ago, this saving was $129.00 . . . a $50.00 savings increase in just one year! If your product is moist, this film keeps the moisture and freshness locked inside. If your product is dry, SUPER DYLAN keeps it that way! SUPER DYLAN film can be heat-sealed, has superb printability, and tears in a straight line *without* tear tape. This film is dimensionally stable and is unaffected by freezer temperatures and high or low humidity. It has just the right stiffness for use in high-speed packaging machines. For more information on SUPER DYLAN and the name of nearest film producer, write to Koppers Company, Inc., Plastics Division, Dept. MP-G120, Pittsburgh 19, Pa.

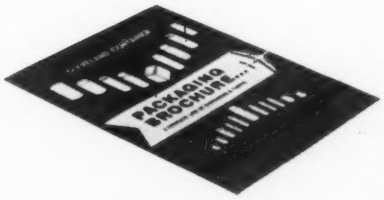
KOPPERS PLASTICS

for Asgrow with Cleveland Containers

The Asgrow Seed Company, whose famous products are sold all over the world, chose the above containers for some of their select seeds. Displaying Asgrow's new trade-mark, these functionally styled containers offer the latest in progressive packaging. Shown are the 1 lb., ½ lb., and ¼ lb. sizes. Made of quality fibreboard with metal bottoms, each has its own distinctive plastic closure which pours, sifts, or can be closed with just the flick of a finger.

These smartly designed containers play an important part in upgrading a product. Sturdy construction and the new patented plastic tops with the stacking feature and correct sifting designs ensure customers' acceptance — and all at low unit cost! We will be glad to help you in adapting these outstanding features to your own special needs. Call or write our nearest plant for complete information.

Write for a copy of our NEW Packaging Brochure.



THE

CLEVELAND CONTAINER COMPANY

6201 BARBERTON AVE. • CLEVELAND 2, OHIO

ALL-FIBRE CANS · COMBINATION METAL AND PAPER CANS
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

CLEVELAND CONTAINER CANADA, LIMITED
Plants & Sales Offices: Toronto & Prescott, Ont. • Sales Office: Montreal

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New York City
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Rochester, N. Y.
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•
Abrasive Division at Cleveland

HI-FAX® packaging keeps products in the

VEL, packaged in Hi-fax, as demonstrated on television by Carol Reed

IG PICTURE"

Container molded by: IMCO Container Corp.
Owens-Illinois Glass Co., and Plax Corp.

Hi-fax puts Colgate-Palmolive Company in the front line of the merchandising parade with this attractive, sales-compelling container for its popular dishwashing detergent VEL. In designing a plastic container for VEL, Colgate-Palmolive Company turned naturally to Hi-fax, high-density polyethylene, to obtain the unmatched combination of features in a blown bottle which only this pioneering material can provide.

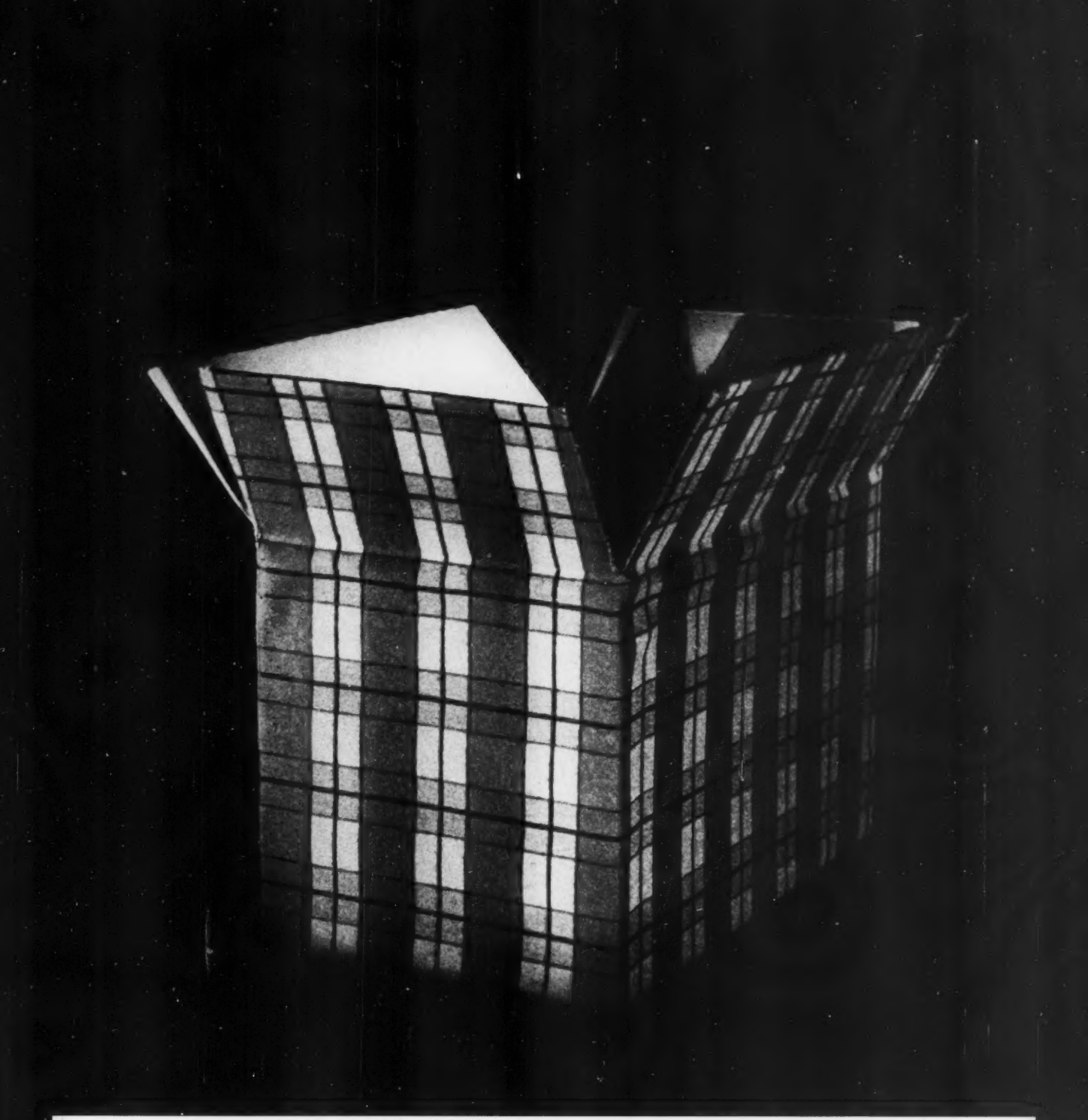
For the consumer, a Hi-fax package spells added convenience and safety. This new VEL bottle is durable and dent-proof, can't scratch sinks and counters, discolor, rust, or corrode.

Bottle makers, too, like Hi-fax because it contributes to the rapid, economical, trouble-free production of a container of uniformly high quality and reliability. The demand for Hi-fax has never been greater . . . its leadership is recognized on all fronts.

You, too, can put your product in the big picture with an attractive, low-cost, blow-molded container made with Hi-fax, the plastic that sets the standard which other materials strive to match.

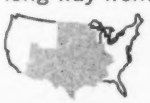
We'll be happy to help with your product planning. Call or write:

HERCULES POWDER COMPANY
INCORPORATED
Hercules Tower, 910 Market Street, Wilmington 99, Delaware



BETTER BOXES FOR SCOTCH-PLAID BUDGETS

With costs becoming increasingly important, most everyone is on a scotch-plaid budget. Dependable delivery; reduction of damage claims through properly designed containers; more efficient use of corrugated, without sacrificing strength; transportation costs; and nearness of supplier's plants are factors which influence the worth of corrugated containers. Consider all the factors, then consider Hoerner. Frugal Scotsmen from Timbuktu to Tipperary swear by us. And we're a long way from Tipperary.



HOERNER BOXES, INC.

CORRUGATED PACKAGING SPECIALISTS FOR MID-AMERICA

GENERAL OFFICES: 600 Morgan Street, Keokuk, Iowa • PLANTS: Fort Smith and Little Rock, Ark.; Des Moines, Keokuk and Ottumwa, Iowa; Danville, Ill.; Minneapolis, Minn.; Tupelo, Miss.; Springfield, Mo.; Sand Springs, Okla.; Sioux Falls, South Dakota; Fort Worth and Mission, Texas • ASSOCIATE: Cajas y Empaques Impermeables, S.A., Mexico City D.F., Mexico

NEW

LOW-ORIENTED STYRENE MAKES THIN-WALLED CONTAINERS UP TO 4 TIMES TOUGHER!

Even at -20°F. this BAKELITE Brand medium impact styrene can give almost four times the impact strength of conventional medium impact styrenes. The secret—low-orientation.

IN standard laboratory specimens all good medium impact styrenes check out about the same. That's how they got their name. But in an injection molded thin-walled piece? A different story. Serious loss of impact strength has been found across the "lines of flow" set up in any injection process. Remember, the piece is exactly as strong as its weakest section.

Until recently this strength loss was a fact of life we just accepted. But now, using BAKELITE Brand TMD-9020, a low oriented medium impact styrene, you can take advantage of *all* the strength originally built into the material. You get the translucency, the economy of a medium impact styrene. And you can get almost four times the molded strength of conventional materials of this type, even at temperatures as low as twenty below zero!

Containers and snap-on lids made of low-oriented TMD-9020 by Parker-Kalon. Division of G. A. T. X.

In standard laboratory "ball drop" test, regular medium-impact styrene (**left**) breaks under 4-in. drop, while new low-oriented styrene (**right**) takes ball dropped four times higher. Both samples were pre-chilled to 20° below zero F.

Think what this means to the package designer and consumer. Products can often be identified without opening the package. And these packages take to the kind of rough treatment the more fragile see-through packages could never begin to withstand. Shoppers can handle them without special care, dump them in a shopping cart, use them again at home as often as they wish.

Packaging suppliers who keep ahead will soon be offering molded plastic boxes and other containers made from this new BAKELITE Brand medium-impact styrene. Be sure you're at the head of the line. Get an idea of how low-oriented styrene will perform in *your* packaging. Remember it—BAKELITE Brand medium-impact styrene TMD-9020. It's the forerunner of other low-oriented BAKELITE Brand styrenes soon to come in other impact-resistant grades. Write today to Dept. GA-86, Union Carbide Plastics Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, New York. *In Canada:* Union Carbide Canada Limited, Toronto 12.

UNION CARBIDE

BAKELITE and UNION CARBIDE are registered trade-marks of Union Carbide Corporation.

The case of the firemen's fix

MISS WATSON: Fearless, you're late this morning. Where have you been?

FEARLESS FULLER: I stopped off at the local fire station.

MISS WATSON: For a quick game of checkers?

FEARLESS FULLER: No, Miss Watson. This happens to be the season of the year when our men in blue are quite busy repairing toys for some of our city's less fortunate youngsters.

MISS WATSON: A wonderful undertaking. But how do you fit in?

FEARLESS FULLER: Well, as you know, they get all types of toys. Wooden toys, metal toys, plastic toys, rubber toys, china dolls —almost everything imaginable.

MISS WATSON: I guess that's true.

FEARLESS FULLER: Well, repairing broken toys requires adhesive in many instances, so Captain Barnes called on me for advice.

MISS WATSON: Did you solve his problem?

FEARLESS FULLER: Yes. Fortunately, Fuller makes many, many types of adhesives. We've got an adhesive suited to practically any bonding job.

MISS WATSON: You mean, for instance, Fuller even has an adhesive for bonding metal to metal?

FEARLESS FULLER: That's right. As the famous comedian says . . . we got a million of 'em!

MISS WATSON: How are you going to write off the adhesives you're donating to fix the toys?

FEARLESS FULLER: I'll slip the cost into my expense account.

MISS WATSON: Under what category, pray tell?

FEARLESS FULLER: Christmas spirits, Miss Watson. Christmas spirits.

MISS WATSON: Fearless, you're the best boss a girl ever had.

FEARLESS FULLER: Thank you, Miss Watson. It's just that a Fuller man always knows the solution to adhesive problems.

Your Fuller man is ready with the correct solutions on any adhesive problems for you, too. Contact your near by plant.

H. B. Fuller Co.

INDUSTRIAL ADHESIVES

St. Paul, Minnesota

St. Paul, Minn. • Atlanta, Ga. • Buffalo, N.Y. • Chicago, Ill. • Cincinnati, Ohio Dallas, Tex. • Kansas City, Mo. • Linden, N.J. • Los Angeles, Calif. • Memphis, Tenn. • Portland, Ore. • So. San Francisco, Calif. • Tampa, Fla. Also Winnipeg, Can. • Fuller Adhesives International, Nassau, Bahamas

*Unlimited Variety and Grade Combinations**

make THILCO PAPERS your ideal choice for better packaging of Food Products!

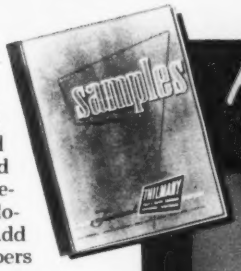
FOR EXAMPLE: Here are three grades (from literally hundreds) we produce for leading food processors

SWISS·MISS — Finely powdered instant cocoa mix has its natural flavor sealed-in and is protected from "moisture caking" in individual service size packets made from a special grade, heat sealable Thilco Pouch Paper. This attractive 2-color Print-Decorated pouch grade for Sanna Dairies Inc., combines the finest quality bleached white M.G. Kraft with Polyethylene for maximum protection from moisture-vapor transmission. Poly heat-sealing qualities permit high speed automatic machine packaging.

LEA & PERRINS — Thanks to a special Thilco paper grade, Lea & Perrins is now able to package its famous Worcestershire Sauce bottle on automatic wrapping machines instead of by costly hand-wrapping. New wrapper created by Thilmany is a "custom" lightweight, Tan colored Kraft attractively Print-Decorated in red and blue, and Poly coated on the reverse side for extra durability and machine heat-sealing. Electric eye web imprint symbols accurately position print design labeling and control wrapper length cut-offs.

E-Z JELL — Dessert Powders are noted for their fresh, natural fruit flavors. To safeguard this reputation, the Enzo Jel Company of Sheboygan, Wisconsin packages their products in a Thilco carton liner paper which features a wax-laminated glassine type grade that permits air-tight folding and heat-sealing when processed on high speed automatic packaging machines. This special grade is unusually high in M.V.T. tensile strength. The food and flavor preservation qualities of these liners insures Enzo Jel of product freshness wherever sold.

From Thilco's complete integrated mill facilities comes a steady stream of food packaging papers in endless variety and grade combinations of glassines, greaseproofs, waxed thermoplastics, foils, cellophane, polyethylene and many others. Add to these Thilco's bulk packaging papers and heavy-duty shipping wraps and you can readily see why so many food processors depend on Thilmany to solve their particular packaging problems. Chances are you will find the protective paper best suited to your needs in one of our countless standard grades — but if not, we'll be happy to create one for you. Contact us today.



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A NEW LIGHTWEIGHT PICKLE JAR: Unless you put these new jars on a scale, you'll hardly know the difference—but your pocketbook will. This lightweight Centennial line of jars reduces both height and weight—without shrinking capacity. And months of use in dozens of plants prove that they'll fill and ship just as well as the old ones. But don't take our word for it. Try a test run and see for yourself.

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Background for Packaging

Notes, quotes and comments. An editorial feature

Are housewives tiring of self-service stores? The question has been raised recently by several marketing experts, who see a trend toward buying by phone, by mail and from door-to-door merchandisers. Their observation is that the supermarket has lost its original connotation as a cut-price outlet and that busy housewives—many of them employed—are rebelling against the time and effort required to tramp the aisles with a cart and to park, load and unload cars. The question is important to packagers, because considerations of package design may be quite different when a package sells itself in the home, not from store shelves.

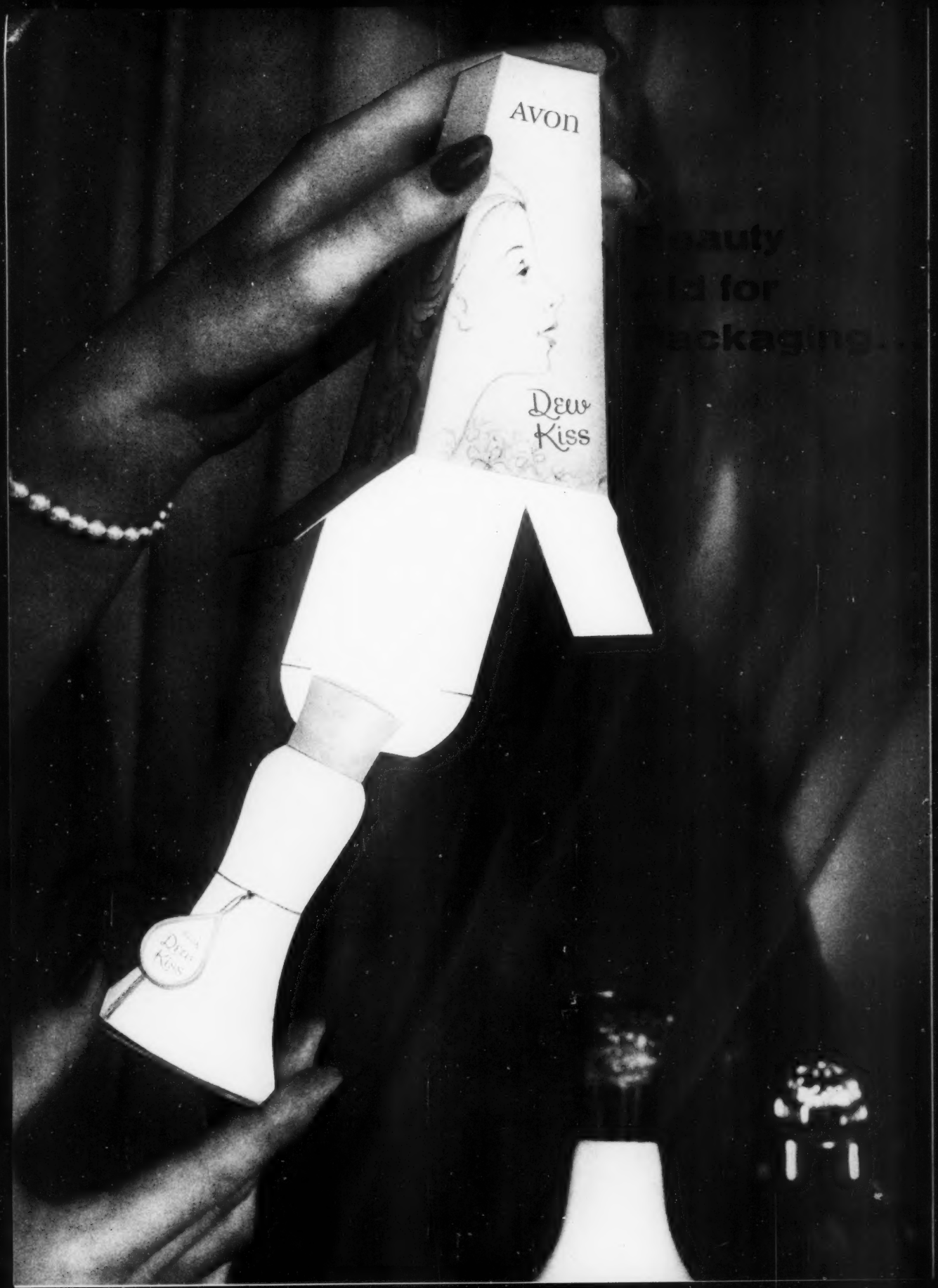
Good news for packagers, hoping for stable container prices, is survey showing that special influences which depressed container-company profits in the last 12 months are now clearing away. Metal-container companies were hobbled by steel strike plus poor crop year. Paper-container companies have had to absorb extraordinary start-up costs of new plants. Glass-container companies are recovering from effect of 51-day mold-makers' strike late in 1959 and look forward to pay-off now from heavy promotion of one-way beverage bottles. *Value Line Investment Survey* predicts that these container-industries' net profits will move higher in 1961 even if general business recedes.

How big is convenience? The new Packaged Convenience Foods Institute estimates that foods partially or fully prepared by the packer and packaged in folding cartons, pouches, bags and covered trays already represent from 10 to 20% of the average family's food bill and that sales volume of such products will double in 1961.

Watch out for the intensifying campaign against short count and short weight. Even so respected a company as the manufacturer of Brillo soap pads has been caught because of a defect in automation. Hauled into court in Trenton, N.J., after a local weights-and-measures inspector found only 11 soap pads in two boxes labeled for one dozen, the company was fined $150 and—much worse—the incident found its way into the columns of the *New York Times*. The court was sympathetic to the company's explanation that machines counted and pushed the pads into cartons and that occasionally, despite all reasonable care, the plungers pulled a pad out of a box by accident before closing it. But the court acted on the law, not on good intentions.

Interesting new discovery in the use of boilable film pouches is that they may be applied to raw or uncooked frozen foods to serve as a waterless cooker, acting on the same principle as a pressure cooker. In the process of testing reheating recipes involving pre-cooked frozen fish, a Nova Scotia packer tried substituting raw fish with the same recipes. He found that raw fish cooked in the bag tasted far superior to the pre-cooked product. Similar experiments with frozen vegetables have also produced superior results.

New concept in plastic linings for paperboard containers involves forming a seamless liner from raw plastic in the container by air pressure, by vacuum or even by using the filling force of the product itself. Called "Plastisac," the new patented process is being studied by several large paper and plastic companies. Potential uses include paperboard containers for liquid detergents, distilled water, motor oil, ice cream, frozen foods and juices, and such high-fat prod- [*Continued on page 44*]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Kiss

.....with BRITE-PAK ENAMEL COAT

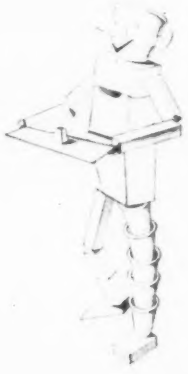
Open this beautiful carton of Avon's *Dew Kiss* and what do you find? An interior so white and inviting that it enhances the feminine appeal of this new, delicate, pink moisturizing lotion from the famous line of Avon products.

The Dew Kiss carton—handsomely produced by one of our customers—again demonstrates how Brite-Pak Enamel Coat bleached board increases sales appeal.

Brite-Pak Enamel Coat makes packages *sparkle* inside and out. Its gleaming surface is unexcelled for picturing products brilliantly, and for printing in full process color, yet it is economical.

See how you can *upgrade* your packaging. Write to Bleached Board Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N.Y.

West Virginia Pulp and Paper



Background for Packaging

[*Continued from page 41*]

ucts as lard and cake mix. American Viscose owns the patents and Inpak Systems is responsible for the mechanical packaging systems.

In the wine field, look to Gallo for bold packaging steps. Gallo a few years ago became the first winery to build its own glass plant—to obtain a special green-amber shade of light-protective glass—thereby causing many packagers to study more closely the effect of ultraviolet light on their products. Now Gallo is doubling the size of its glass plant. *Latest:* Gallo may be the first to put small bottles of wine in a six-pack; it expects its Ripple wine may compete with beer at about the same price.

The F&DA problem is vastly complicated by inadequacy of petitions now being submitted under the Food Additives Amendment. Dr. L. L. Ramsey of F&DA told the American Chemical Society that the agency is rejecting approximately two out of three petitions on initial submittal and that more than two-thirds of those filed are eventually returned to the petitioner for improvement of the analytical method. Dr. Ramsey suggests that the problem can best be met by following a method officially adopted by a responsible industry organization.

Packagers are concerned with the new Color Additives Amendment if a packaging material visibly colors a food product. Under regulations now issued by F&DA, a grace period of 30 months has been established for final clearance of colors other than coal-tar dyes that were used prior to signing of the law last July 12. Stringent interim tolerances have been set up for some coal-tar colors, pending proof of safety; other dyes in this category have been banned.

Polypropylene is coming fast, now that initial production problems are being overcome. New volume applications of polypropylene film, since the pioneering use as a wrap for Ward's bread (see MP, Oct. '60, p. 109), include two more bread wraps, a 2-mil bag for difficult macaroni products, an interliner of the film as a release agent for drum-packed asphalt, wraps for lamp shades, towels and ticking. A paper company uses large quantities in machine-applied wraps for consumer paper products.

Drop in air-freight rates early next year will cause many packagers to restudy their shipping systems. New jet planes designed especially for fast freight hauls will go into service soon and the Civil Aeronautics Board seems certain to approve rates as low as 8 cents per ton mile, averaging near 13 cents—as against the present 19 cents. To be considered with this is the lighter, lower-cost packaging with air freight—especially for such items as perishable foods, cut flowers, electronics products and even large pieces of machinery.

Patience is required in adapting polyethylene film to bakery wrapping, says Baldridge Bakery, Inc., Lubbock, Tex. Baldridge now successfully wraps several thousand loaves of bread daily in 1-mil film, using two standard machines with conversion units running at 50 loaves per minute, and reports an 18% saving on materials costs. But there was an initial period of trial and error during which operators had to become acquainted with the characteristics of the material and learn to avoid such pitfalls as dented baking pans which interfered with end seals. The report comes from a survey by U. S. Industrial Chemicals Co.

Ink makers see increased consumption of ink in packaging as the principal reason for a tripling of their sales in the last 10 years. Packaging now takes 40% of all printing inks. Not only is volume increasing in all printed packaging materials, but the pronounced trend to colorful printing of corrugated shipping cases represents a market which until recently was scarcely tapped. Also credited for increased consumption is the wider use of multipacks, often printed in two, three or four colors.

MARLEX*... for quality packaging with greater sales appeal!

Which of these modern packages is right for your product? Whether it's a blow molded bottle, extruded tube, film overwrap, a thermoformed or injection molded container; the result will be increased sales appeal with a package made of MARLEX plastics. Attractive appearance . . . excellent feel are two reasons. Wide temperature range is another. MARLEX high density polyethylenes and ethylene copolymers withstand temperatures from 250° to −180°F. Alkalies, acids, chemicals, oils and greases are no problem. And MARLEX is odorless, tasteless, non-irritating, and biologically inert.

To packagers, the high quality of MARLEX resins means truly efficient package production . . . easier printing, wrapping, filling, sealing. Moreover, the skills of Phillips seasoned research personnel working with extensive sales laboratory facilities are available to MARLEX users. Phone or write for full details.

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A TRIANGULAR SOLUTION TO YOUR ADHESIVE PROBLEMS

Product · Design Assistance · Technical Follow-thru

These are the three base points on which United's triangular approach rests to assure you quick-set, high-quality adhesive performance in assembly line sealing operations.

THE PRODUCT IS THERMOGRIP®, the unique hot melt adhesive in cord-like form. THERMOGRIP adhesive can be applied intermittently or continuously in wide or narrow patterns. It can bond finishes and coatings where other adhesives fail, take too long to set-up, or cost too much. It can be easily adapted to a variety of packaging and converting equipment . . . for example, cartoners by Redington, Peters, Clybourn, Roto-Pak and others.

DESIGN ASSISTANCE is the second point in the United triangle. Whether you are a maker or user of packaging equipment, a system using THERMOGRIP adhesives can be design-engineered to meet your sealing needs . . . present, future, or experimental. Such design assistance has resulted in package-line speed-up, the elimination of space-eating pressure sections, better bonding, particularly on foils, poly-coated, and other hard-to-stick barrier materials, and neater, more precise adhesive patterns.

TECHNICAL FOLLOW-THRU completes the triangle. Long after these unique adhesives and applicators have been installed, United technical specialists are available to provide a service assist from branch offices across the country.

Other leading makers and users of packaging and converting machinery have found that it makes good sense to know all about THERMOGRIP adhesives. Why not join them . . . soon? Call or write United where a triangular solution awaits.

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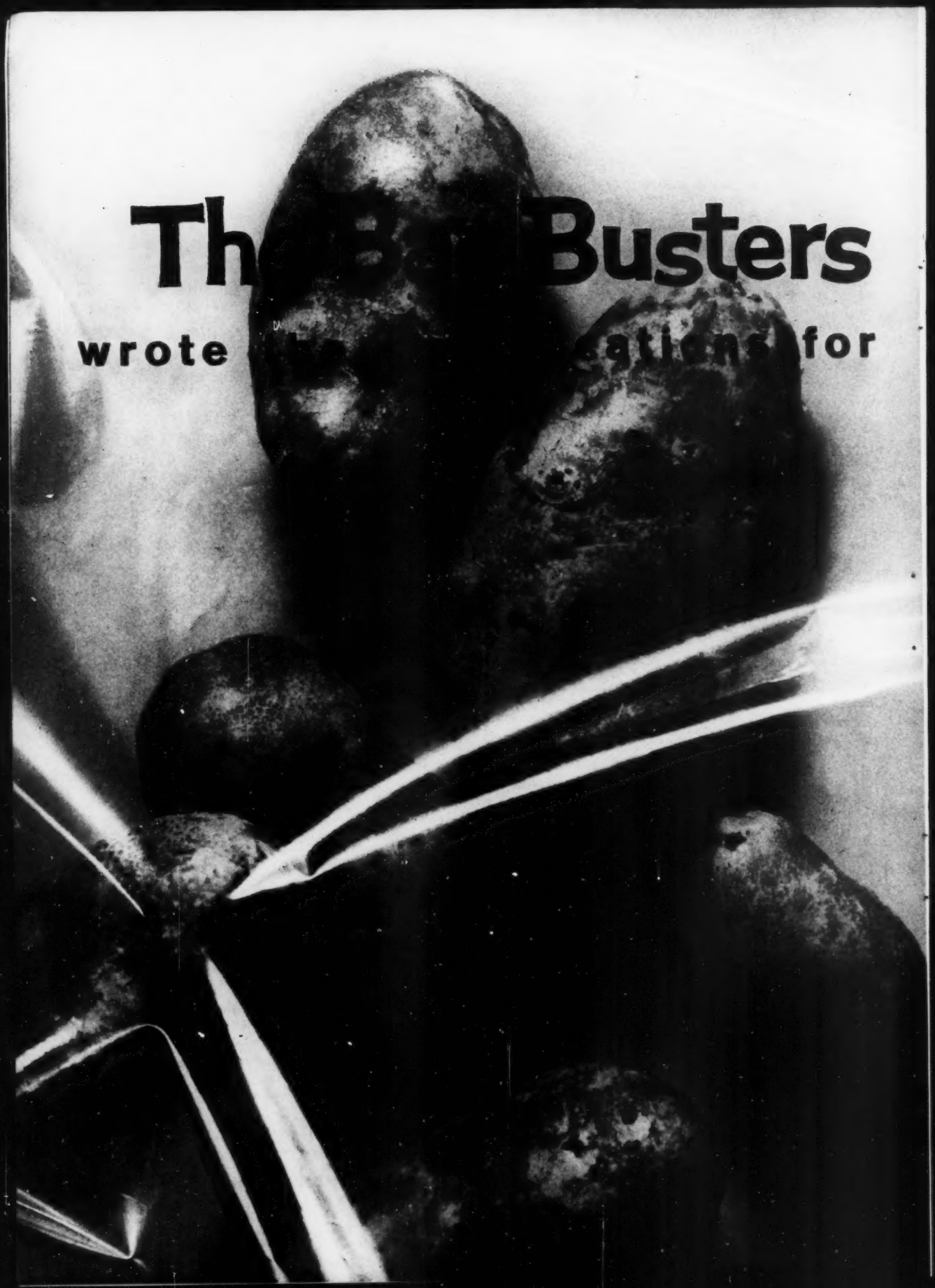
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It's windowpane clear . . . it's trampoline tough . . . it's the polyethylene film engineered by Celanese to provide the most wanted combination of properties a packaging film can have.

Here is a film that is certain to answer the most rigid requirements of convertors and merchandisers who need the sales appeal of transparency for the hard-to-contain bag buster items. That's why it's the perfect film for produce.

Celanese Polyethylene Film can help you gain a strong advantage in competitive situations with other packaging materials. We invite you to make an immediate check. Get in touch with your Celanese representative, or write: Celanese Plastics Company, 744 Broad Street, Newark 2, New Jersey.

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Celanese PLASTIC PACKAGING

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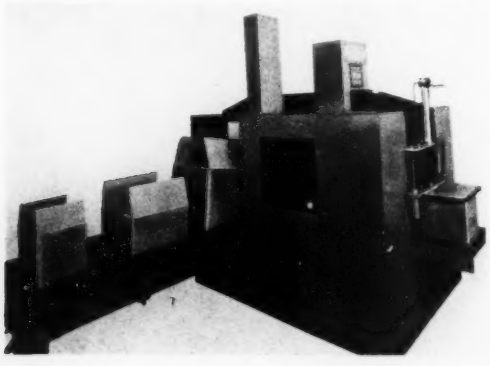
Equipment & Materials

Aluminum can with tear-off closure

A drawn, pre-coated aluminum can with a replaceable tear-off aluminum top—said to be competitive in cost with tinplate cans—is offered by Central States Can. It is suggested for use in the packaging of many products, including processed foods. The development culminates more than two years of research work by the supplier in conjunction with E. W. Bliss Co. and Kaiser Aluminum & Chemical Corp. The easy-opening one-piece lid embodies an integral tabbed strip that is torn completely away without leaving sharp edges. The lid itself is of deep counter-sunk construction that enables it to be placed back on the seamless can as a snug-fitting plug closure. This new opening principle, which eliminates the need for can openers, may also be used on composite cans which have aluminum tops and bodies of other materials. According to the supplier, container costs are brought down by the use of pre-enameled coil stock and specialized manufacturing equipment. The company's automatic can-manufacturing line will produce cans up to $3\frac{7}{10}$-in. diameter by $3\frac{3}{8}$ in. high, at reported speeds of up to 240 per minute. Tear-tabbed closures are applied in packager plants by conventional double-seaming methods. Other advantages cited by the supplier are that the new can is corrosion-proof, leakproof (because of its seamless construction) and nestable (for convenient stacking). *Central States Can Corp., Massillon, O.*

New adjustable case sealer

New from Union Bag is a case-closing machine which adjusts automatically to seal corrugated containers of varying sizes. At reported speeds of up to 12 cases per minute, the K&M Randomatic seals tops and bottoms of cases ranging in size from 4 by 8 by 10 in. to 18 by 20 by 30 in. The machine applies a thermoplastic sealant which sets in less than 3 sec., reportedly eliminating the need for cases to pass through long compression sections to insure top and bottom closure. As a case enters the machine, an internal mechanism moves in from its outer limits until it meets the resistance of the container. Once sealing is accomplished, the mechanism retracts to its outer limits. Thus, regardless of sequence of case size, the machine adjusts itself automatically to the proper size. Floor space required by this new unit is 7 ft. in length and 5 ft. in width. *Union Bag-Camp Paper Corp., 233 Broadway, New York 7.*



Net-weighing accuracy

Designed for use in the weighing of such products as candy or nut meats, in which weight control can only be measured in the weight of a single unit of the product being packaged, is Hayssen's new double-bucket scale. This unit receives the initial charge from bulk supply, weighs it and drops it into a second weigh bucket. A dribble feed then fills the bucket to the proper weight. The advantage of the double-bucket system, says the supplier, is that the dribble cycle is equal to 100% of the loading cycle, thereby assuring accuracy within one piece of the product. The company points out that, in conventional weighing equipment, initial bulk fill takes 92 to 97% of the loading cycle, leaving only 8 to 3% of the cycle time for dribbling. On the supplier's new equipment, the dribble feed has been lengthened to 3 ft., and the product is passed over two vibrators. The result, says the manufacturer, is net-weighing accuracy within 1/100 oz. *Hayssen Mfg. Co., Sheboygan, Wis.*

Economy of foam molding

Air-O-Plastik Corp. reports that it has developed a new processing technique for resilient plastic-foam materials that eliminates conventional mold costs and makes use of these foams feasible even in small production runs. The process, says the supplier, is based on a new principle of processing polyester and polyether foams in a wide range of custom shapes and patterns. The foam material, called Contour-Foam, is suggested for a variety of packaging applications. The lightweight cushioning material, available in a wide range of colors, is reported to have high tensile strength and a neutral pH factor. The supplier points out that the contoured foam material is re-usable. It also is claimed to cut packaging costs by reducing inventories of die-cut partitions and inserts. *Air-O-Plastik Corp., Union City, N.J.*

Can and bottle crusher

Prodeva offers the Model CC-100 electric can and bottle crusher. Suggested for use as a waste-disposal unit for container suppliers and users, the new machine is claimed to cut by as much as 80% the need for maintaining non-productive storage space. According to the supplier, the automatic device is capable of crushing thousands of cans (up to 6-gal. size) or bottles (up to 1-gal. size) per hour. The company also points out that the machine will pay for itself via savings in trucking and labor costs. *Prodeva Mfg., Inc., Jackson Center, O.*

Multi-function corrugated carton maker

The incorporation of all corrugated-carton converting and finishing operations into a single machine is reported by S & S Corrugated Machinery. The company's Model ZLM Folder-Gluer performs the following operations in a single

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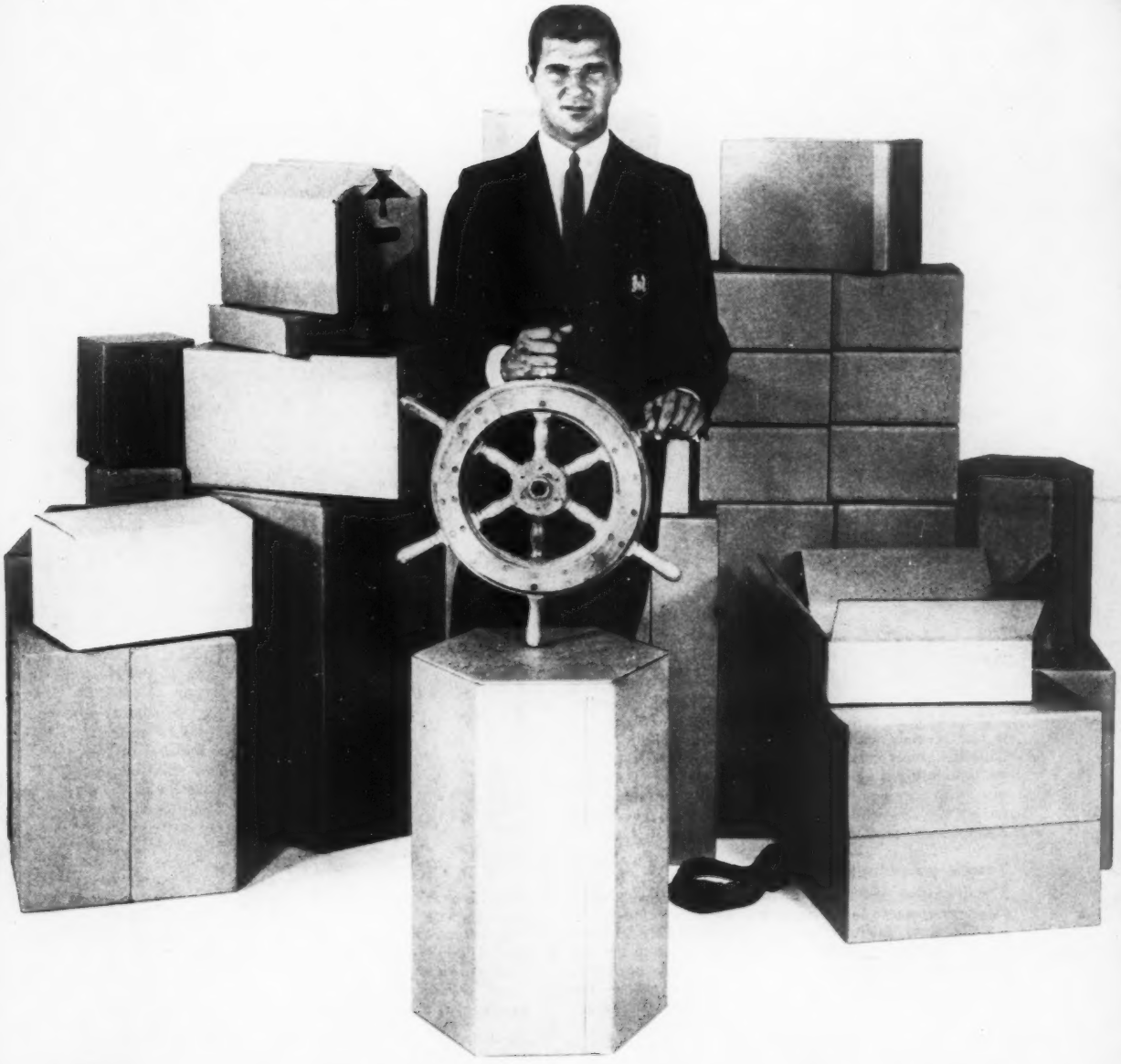

CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION

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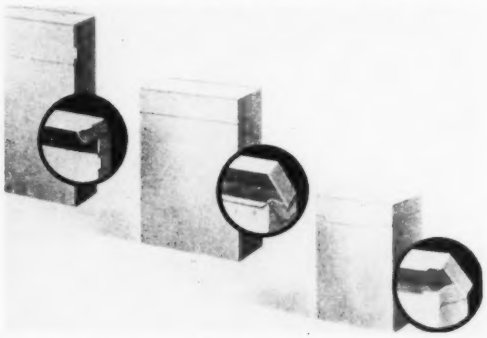
pass: creases, slots and rotary die cuts (or prints in one or two colors), then folds, stacks, precision counts and delivers squared piles of glued or taped cartons. Said to operate at high speed with low manpower, the automated unit can be operated as a whole, or modular units of the whole can be employed, depending on job requirements. It accommodates containers with panels as small as 3¼ by 6 in. or blanks as large as 38 by 81¾ in. Rapid set-up and quick change-over on small-lot orders are other features reported for the machine. For additional information, contact the supplier. *S & S Corrugated Paper Machinery Co., 160 N. Fourth St., Brooklyn 11.*

Crisp, clear overwrapping film

Visking's Visolyte is a crystal-clear, crisp-textured biaxially oriented polystyrene film designed for overwrapping and other packaging applications. The film also is reported to be economical and to have excellent machinability and printability. Other qualities cited for the film include easy removal when used as an overwrap, no blocking problem and superior low-temperature performance. Among the uses suggested for the material are as windows for envelopes and display cartons, as an overwrap for tubed tomatoes and as a lamination to high-impact polystyrene for decorative paneling and trays. *Plastic Films, Visking Co., Div. Union Carbide Corp., 6733 W. 65 St., Chicago 38.*

Reclosable folding cartons

Now available from Federal Paper Board are three new types of reclosable folding cartons. Illustrated below, they are (l.-r.) the Nib Lok, Klik Top and Trim Fit. All can be custom designed in a wide range of sizes and shapes



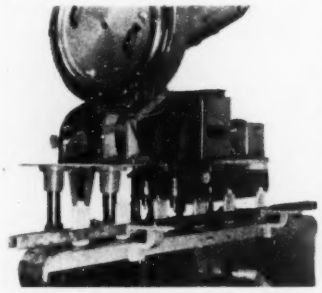
to accommodate many different products, says the supplier. The lid of each carton is said to flip open easily and to reclose securely with a positive lock. An audible "click" indicates proper carton closure. According to the supplier, the tight-fitting closures prevent product spillage or spoilage after first opening. All three carton styles reportedly can be set up and loaded on standard or slightly modified equipment. *Federal Paper Board Co., Bogota, N.J.*

Tough polyethylene molding resin

A polyethylene molding resin which is claimed to offer superior resistance to environmental stress cracking is now available from Spencer Chemical. Designated Poly-Eth 4204, the injection-molding resin is suggested for use in the fabrication of containers, closures, pouring spouts and other items where environmental stress cracking is a problem. The resin has a density of 0.919 and a melt index of 1.4. Its unusual stress crack resistance, say the supplier, is a result of the use of the "polymorphous" technique. This technique (already applied to film-grade resin) involves the action of a resin when formed to produce a controlled molecular pattern and a balance between the crystalline and non-crystalline elements of the materials. *Spencer Chemical Co., Dwight Bldg., Kansas City 5, Mo.*

Inserting plugs in plastic bottles

Designed to handle assembly-line insertion of restriction plugs in soft plastic squeeze bottles is Resina's new Model PB. The unit automatically selects and orients plugs in a chute and inserts them into filled containers. A conveyor carries the containers under the chute for insertion of plugs. According to the company, there is no need for a plug-feed-control mechanism, since plugs will not be fed until the arrival of a container underneath the chute. Conveyorized squeeze bottles are gripped by the neck by rubber-clad belts during the plug-insertion sequence, to prevent product spillage or container damage. The supplier says that the new machine will operate at speeds of 20 to 120 plug insertions per minute and can accommodate a wide range of plastic-bottle styles. For further data, contact *Resina Automatic Machinery Co., 572 Smith St., Brooklyn 31.*

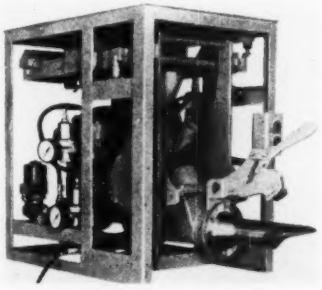


Package-insert folder

The Master Minifolder is a machine distributed by Super Speed that automatically folds small package inserts such as are used by packagers of cosmetics and pharmaceuticals. The machine is reported to be capable of producing hundreds of inserts per minute, each one folded as many as eight times (four parallel and four right-angle). It can accommodate paper insert sheets ranging in size from 2 by 2¾ in. to 8½ by 11¾ in. Inserts can be folded down to 9/16-in. size. The unit is equipped with a single-stream suction hopper feeder which reportedly can handle any stock from coarse paper to tissue. All folding rollers are adjustable. Details on the machine, which is manufactured by Herzog-Heyman of West Germany, can be obtained from *Super Speed, Inc., 742 S. Sherman St., Chicago.*

Multiwall valve bag packer

Said to be low in cost, easy to install and accurate in weighing is St. Regis' compact new multiwall valve packer. It is available in two models: the Easiflow-I for granular, free-flowing materials and the Easiflow-II for powdery materials. The new units are designed for filling 25- to 50-lb. bags at reported speeds up to four bags per minute. Excellent weight accuracy is provided by a quick-acting cut-off mechanism and complete, automatic screw clean-out at each charge, says the manufacturer. All parts of both machines are easily accessible. The filling screw is easily removable for replacement. *St. Regis Paper Co., 150 E. 42 St., New York 17.*



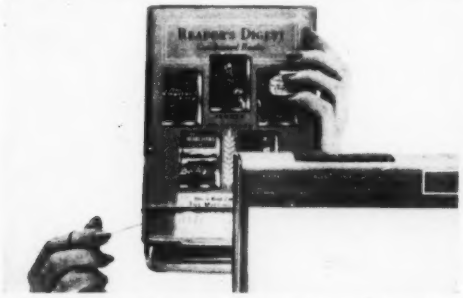
Electronic selector/counter

An electronic selecting and counting attachment which reportedly permits automation of production lines handling large numbers of different types of containers is new from Atronic Products. The Model 410-C is designed for convenient mounting on conveyor lines. Operating on a photo-

[Continued on page 158]

Harcord packs a purpose

ATTRACTIVE OVAL PACKAGE is easy to shake . . . easy to fill. Pouring spout snaps in *after* filling . . . with no special equipment, and no seaming required. Unique gripping edge on metal cap makes for easy opening even with wet hands.



FULL STRENGTH STRING OPENER* . . . The outer plies of board in this unique canister, which can be made in round, square or oblong shapes, are not cut or scored during manufacture. This provides full-strength, fully sealed protection until customer pulls string opening device to cut through package.

HARCORD DUST GUNS shoot to kill! Sealed, tamper-proof packages work with easy, action-perfect sliding motion . . . effectively direct spray up or down. HARCORD packages like this give customer satisfaction at a cost of pennies.

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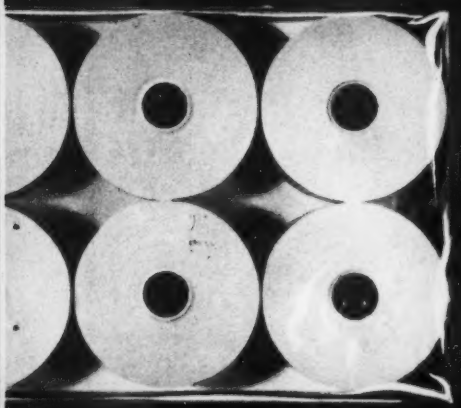
(Polypropylene Film)

GOES *OLEFANE*!*



Mohawk Tablet Company, Chicago Heights, Ill., is now using Olefane exclusively to package their loose-leaf fillers, six-packs of adding machine tape and typing paper.

1 OUTSTANDING SALES APPEAL. Sparkling clear package shows off products to best advantage. Just the right "hand", too . . . neither too stiff nor too limp.

2 LONGER SHELF LIFE. Strong, tear-resistant . . . doesn't become brittle and crack with age. Keeps products clean and saleable almost indefinitely.

3 SUPERIOR MACHINABILITY. Just the right flexure and slip to operate smoothly and efficiently on high-speed wrapping equipment.

4 MORE FILM PER POUND. Lightest of all transparent films . . . gives more square feet per pound . . . costs less.

AVISUN SPECIALISTS can answer your specific questions, and help you plan for better wrapping at lower cost with OLEFANE.

*a trademark of AviSun Corp.

Telephone: LOcust 8-5520

AVISUN CORPORATION, Dept. 397
1345 Chestnut St., Philadelphia 7, Pa.

Send us complete information covering AviSun Olefane.

☐ Please have a Technical Specialist call.

Name_____
(Please Print)

Position_____

Company_____

Address_____

City_____ Zone____ State_____

Proven by leading converters

...the versatile Simplex Model **210**

double web 40" wide side-weld machine

delivers more bags per shift at less cost

Simplex®

Write or call for full details, today

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FOOD MACHINERY AND CHEMICAL CORPORATION

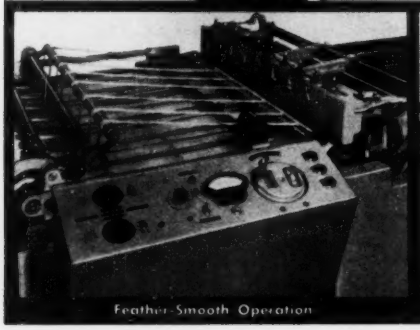
Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

FMC Packaging Machinery Division

534-23rd AVENUE, OAKLAND 6, CALIFORNIA

Foreign Sales: FMC International Corp., P. O. Box 1178, San Jose, Calif., U. S. A.
(Cable Address: FOODMACHIN)



Feather-Smooth Operation

Strength Where Needed

Unmatched Results

For left: Central panel view shows functional simplicity of 210 design. Converters report substantially better yields with the Simplex improved sealing bar construction.

Left: Heavy construction cuts vibration, holds precision adjustments, permits higher speeds under continuous operating conditions.

puts

"diversification"

in packaging

Show us the product . . . any size, shape or substance . . . and Oneida will design and produce the flexible package that's *made* for it! We'll help you decide, from the widest variety of packaging materials, which one will do the best selling job. We'll put at your service a top design staff . . . the latest 6-color flexographic, rotogravure and letterpress equipment . . . plus the experience of more than 30 years in flexible packaging. Write for more information . . . no obligation.

Oneida

whatever

your product . . .

flexible packaging

by Oneida

will surround it

with **SELL!**

Attractive enough to earn a place at the family table, this ingenious squeeze bottle package was created for Plochman & Harrison, Chicago and Jersey City, by Continental Can Company, Inc. The lustrous, color-rich "barrel" is blow molded of Spencer "Poly-Eth" Polyethylene resin. The top is injection molded.

Why Spencer's Full Family Of Job-Fitted Resins Answers Any Blow Molding Challenge You Face:

Your Spencer Representative Has the Right Resin To Help You Solve Any Production Problem

Efficient production depends on selecting the proper resin—the one with just the right processing characteristics for the job. That's why many leading producers look to Spencer's complete family of "Poly-Eth" resins formulated especially for blow molding.

With the wide range of properties offered by this proven "Poly-Eth" family, you can choose a resin virtually tailored to your needs. No matter how intricate the mold, you can produce units to exacting specifications.

Spencer know-how is always at your call. Without obligation, you can benefit from the vast experience of our expert Plastics Sales and Technical Service forces. They welcome the opportunity to help you determine which "Poly-Eth" resin best fits your individual processing problem.

See for yourself how these job-fitted Spencer resins can boost your blow-molding profits. Contact your Spencer Sales Representative, or write directly to Spencer at the address below for a test sample.

Which Of These Spencer "Poly-Eth" Resins Fits Your Next Blow Molding Job Best?

resin number	melt index	density
"POLY-ETH" 4204*	1.4	.919
"POLY-ETH" 5305	2	.920
"POLY-ETH" 5104	1.5	.922
"POLY-ETH" 2405	2	.925
"POLY-ETH" 1504	1	.935
"POLY-ETH" 2905	2	.940

*"Poly-Eth" 4204 is in a class by itself with respect to environmental stress crack resistance. We have been unable to crack it after months of test under ASTM D-1693-59T. Tests are still underway.

SPENCER

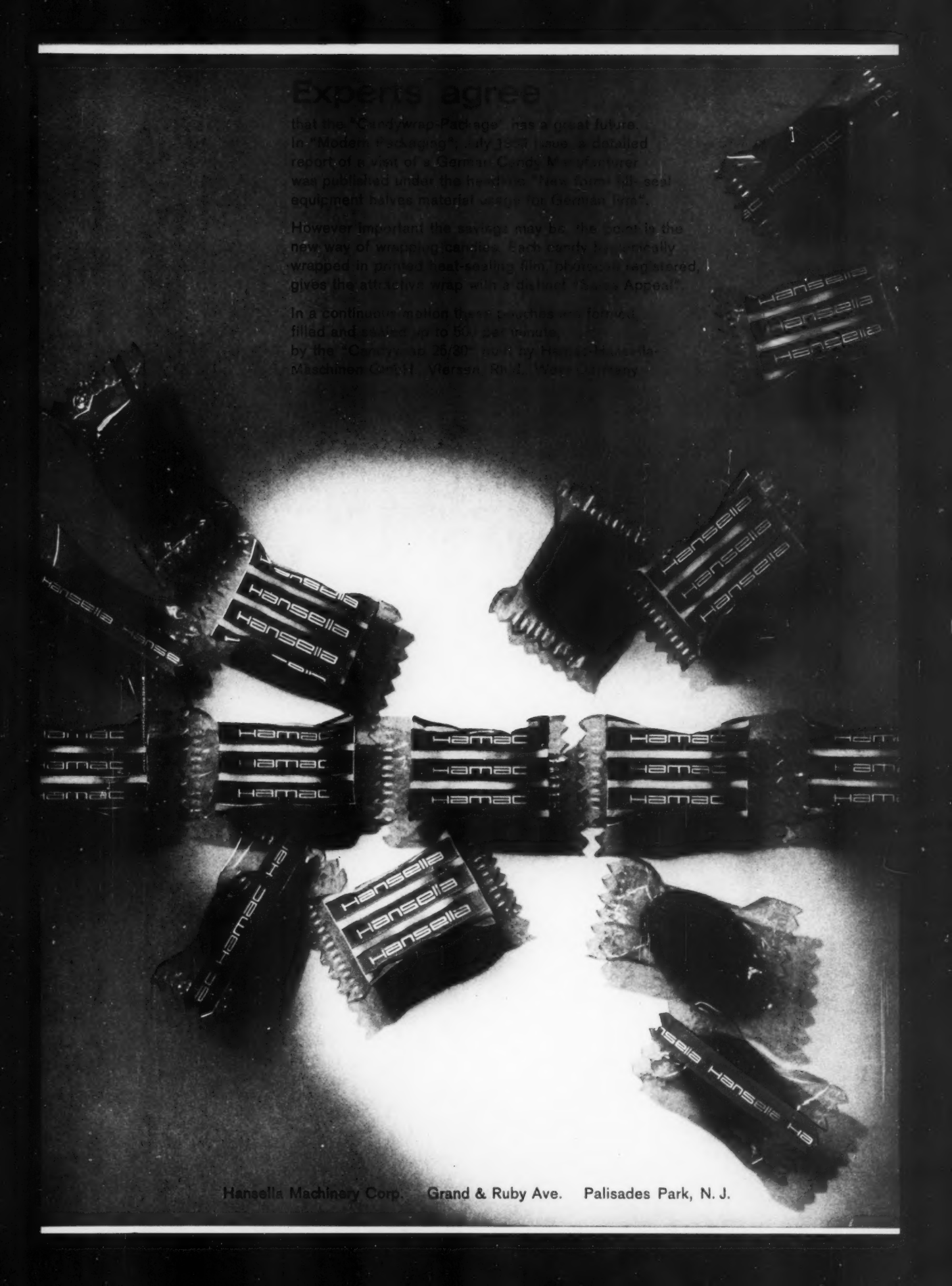
Poly-Eth Polyethylene

SPENCER is also a prime supplier of

POLY-PRO POLYPROPYLENE

SPENCER NYLON

SPENCER CHEMICAL COMPANY, DWIGHT BUILDING, KANSAS CITY 5, MISSOURI


Experts agree
that the "Candywrap-Package" has a great future.
In "Modern Packaging", July 1957 issue, a detailed
report of a visit of a German Candy Manufacturer
was published under the headline "New form fill-seal
equipment halves material usage for German firm".
However important the savings may be, the point is the
new way of wrapping candies. Each candy hygienically
wrapped in printed heat-sealing film, photocell registered,
gives the attractive wrap with a distinct "Gift Appeal".
In a continuous motion these pouches are formed,
filled and sealed up to 600 per minute
by the "Candy-pac 26/30" built by Hansella-
Maschinen GmbH., Viersen, Rhld., West Germany
Hansella Machinery Corp. Grand & Ruby Ave. Palisades Park, N. J.

Whatever the product... Whatever the packaging need...

FOIL FITS IT!

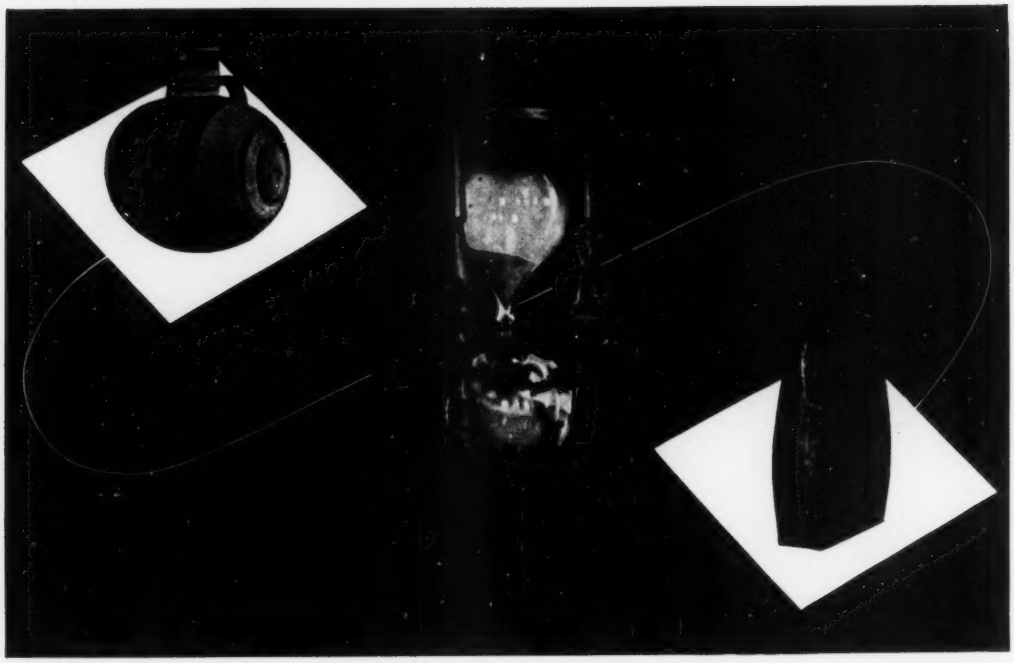
SEAGRAM-DISTILLERS COMPANY aims its creative ingenuity toward exciting consumer interest in Seagram's 7 Crown Whiskey during the heavy holiday buying period. Their original gift package design for the full quart size . . . royal blue foil dramatically embossed with golden crowns . . . adds eye appeal and sales motivation to a highly competitive "impulse" product. Master merchandisers, Seagram puts foil to work in a dynamic, effective way . . . certain that it will add prestige and profit to the 7 Crown line. This registered, embossed, gravure foil wrap produced by The Specialty Paper Company, Dayton, Ohio. The product is sold with Seagram's brand name on cellophane sleeve which is easily removable for conversion to a gift package.

For the Competitive Edge in Packaging . . . **ACT**

Kaiser Aluminum's "ACT" (Aluminum Consulting Team) is a group of packaging specialists created to help designers and users of packaging use aluminum foil to develop competitive advantages in cost, sales appeal and package efficiency. Get the full story on how "ACT" specialists in package engineering, design, processing equipment, marketing and research can help you gain greater sales for your products. Call the Kaiser Aluminum Sales Office listed in your telephone directory. Or write "Packaging," Kaiser Aluminum & Chemical Sales, Inc., Kaiser Center, Oakland 12, California.

KAISER ALUMINUM

Seagram
7
FULL QUART
Seagram's
Seven 7 Crown
AMERICAN
BLENDED WHISKEY



PAST, PRESENT AND FUTURE

in transparent film packaging . . . tremendous experience amassed over the years, and continuous research today, enabling us to lead the way in new development — these are the factors that guarantee you the most knowledgeable, most useful opinion on your own particular packaging problem. Do you want advice on the transparent packaging film that will suit your product best? We have scientists and technicians, the foremost in their field, to help you select the appropriate one. They may suggest cellulose film in one of its many types. Perhaps you may need BCL polythene film. Or your product may be an 'awkward' one — something you thought could never be packaged visibly . . . like a liquid, a cream or paste, a powder; acid, alkali, grease, salt; a heavy, sharp article. In this case we should probably recommend polythene-coated cellulose film or one of our new plastic films.

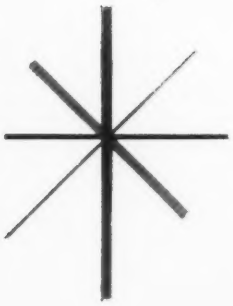
Contact us now for further details and samples of our films. And if you need practical help to use them to best advantage, we are ready and keen to co-operate with you.

BCL

BRITISH CELLOPHANE LIMITED

Henrietta House, 9 Henrietta Place, London, W.1, England

'Cellophane' is the registered trade mark of British Cellophane Limited in the following countries: U.K., Jersey and Guernsey, Commonwealth of Australia, Ceylon, Cyprus, Denmark, Eire, Federation of Malaya, Federation of Rhodesia and Nyasaland, Gibraltar, Hong Kong, Iceland, India, Jamaica, New Zealand, Pakistan, Singapore, Trinidad and Tobago, Union of South Africa



Better labeling...less work ...the **HEAT SEAL** way!

Labels by Steigerwald

Fine labels of all kinds at reasonable cost

Heat Seal requires no glue, no water, no clean-up. Ideal for bag headers and containers of practically all shapes and materials. Instantaneous or delayed action. Made to exact specifications, for use with high speed equipment. Continuous rolls or individual.

Send your present labels for redesign, without charge or obligation, or for estimate on printing in present form. A. M. Steigerwald Company, 910 West Van Buren Street, Chicago 7. Taylor 9-5400.

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Stollmaier & Son, Inc.
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Bramble 1-0222

DETROIT 40, MICH.
Harry W. Hogg
26416 W. Seven Mile Rd.
KE 2-0114

LOUISVILLE, KY.
Practical Products Co.
319 Jefferson St.
Juniper 7-1257

CLEVELAND 21, O.
A. C. Foster
4040 Mayfield Rd.
EVergreen 2-7555

KANSAS CITY 5, MO.
A. B. Mason
905 Jefferson St.
Victor 2-6580

MILWAUKEE, WIS.
H. C. Lackowski
P.O. Box 62—Rt. No. 1
Garden 5-5850

MINNEAPOLIS, MINN.
J. E. & J. L. Moor
3329 Dupont Ave., So.
Taylor 4-5309

ROCKFORD, ILL.
Blackhawk Paper & Cordage
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NEW YORK 25, N. Y.
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Monument 2-0237

ST. LOUIS 5, MO.
Marvin Yates Co.
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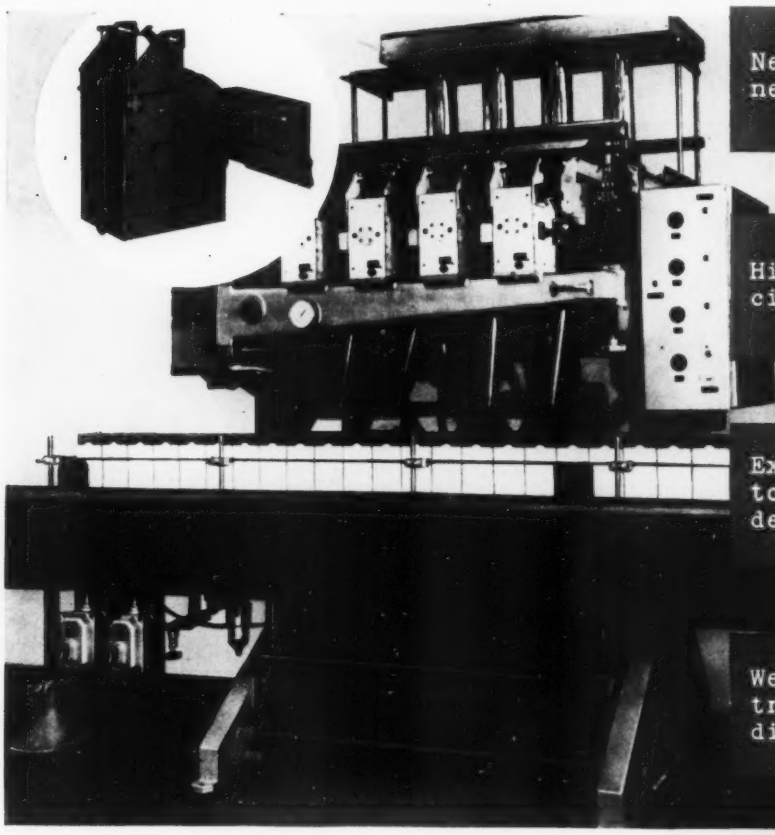
GOLD OR SILVER EMBOSSED • DIE-CUT OR SQUARE • FOIL SEALS AND TAGS • FLAT OR CONTINUOUS ROLLS FOR HAND OR AUTOMATIC USE • HEAT SEAL • PRESSURE SENSITIVE • SPECIAL ADHESIVES

THERE'S NO WEIGH LIKE PNEUMATRON!



Net weight accuracy never before attainable

High speed air circuit action

Extremely responsive to changes in product density and feeding rate

Weighing assembly travels only minute distance - .020"

Practical approach to instantaneous pressure weighing

Sensitive, yet durable, continual operation without change in accuracy

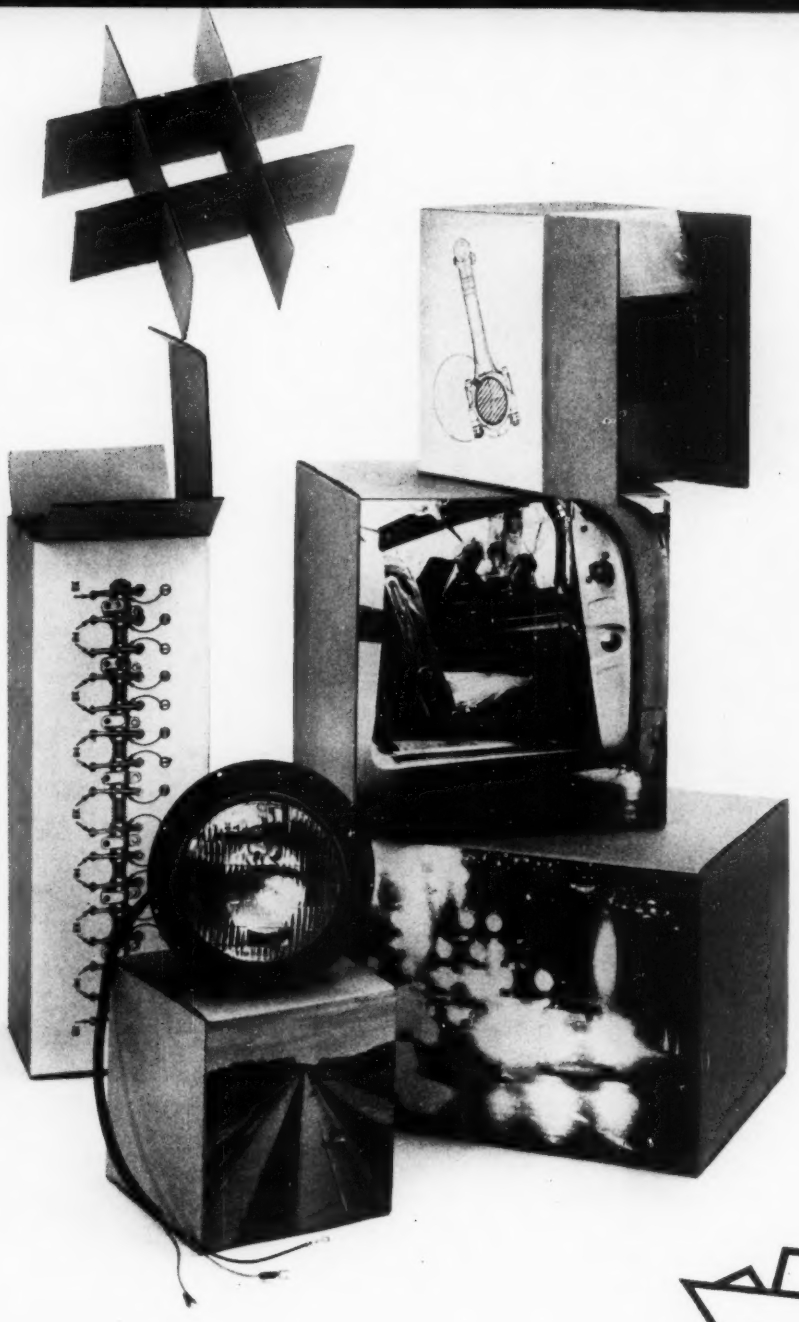
No weighing method ever devised offers the combination of speed, accuracy and dependability that is inherent in the revolutionary PNEUMATRON design. It establishes new standards of precision in net weighing. Available in two, four and six head models. Each head consists of a sensitive cantilever assembly and air control device for accurately detecting the deflected position of its receptacle as goods are filled.

Write for Bulletin #122 giving complete information.

PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Avenue, Quincy 71, Mass. *Sales Offices: New York; Chicago; Dallas; Rochester. Agents: Fred Todt Company, Los Angeles, San Francisco and Seattle; Rockwell Pneumatic Scale Ltd., London, N.W. 2, England; O.R.M.A. Paris, France. Subsidiaries: Delamere & Williams Co., Ltd., Toronto; Carbert Manufacturing Co., Inc., Cambridge, Mass.*

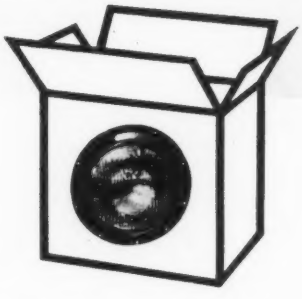
PNEUMATIC

Packaging and Bottling Equipment



Miles of automotive products

Millions of shock absorbers, spark plugs, headlights, seat covers; thousands of windshields and grills...a bumper-to-bumper crop of automotive products is shipped in Hinde & Dauch Division corrugated boxes. Hinde & Dauch is a major supplier to leading companies in this great industry ...a reliable source of *boxes in volume at competitive prices.* Call the Hinde & Dauch Division plant nearest you.



West Virginia Pulp and Paper

Hinde & Dauch Division

17 Plants • 42 Sales Offices • Sandusky, Ohio

WE ASK THE READERS

How do you prevent expensive packaging material from being misused in your operations?

Arthur C. Scalzo
Advertising Manager
Sargent & Greenleaf, Inc.
Rochester, N. Y.

Since we, as lock and hardware manufacturers, are confronted more with the problem of various sizes and shapes of boxes than with large quantities of a specific type of container, we have to vary our system of packaging control and maintenance.

All our fast-moving smaller packaging types designed and created for specific use are stocked and maintained in our general stockroom. As with all parts in the stockroom, packaging is kept under constant control of stockroom attendants.

When boxes are withdrawn from stock, Production Control is immediately informed of the transaction so that their records will coincide with those of the stockroom. In this way, Production Control is in constant touch with packaging inventory and knows to what extent it is being used. Notification of monthly product shipments serves as a back check on withdrawals.

Large or bulky-type packaging is stocked in the shipping department, and is maintained and supervised by the shipping foreman. Production Control has records of the initial packaging material put into the shipping department, but how the packaging is used and maintained falls under the foreman's supervision. All boxes put into shipping stock have a basic use. However, due to periodic small shipments of speciality items, it becomes necessary for the supervisor to use his discretion on how to improvise existing boxes to meet the immediate demand. This confidence in our supervision stems from the many suggestions submitted to save the company thousands of dollars in needless waste due to improper design or faulty construction. Our suggestion-reward plan has served as a stimulant to give our supervision the added incentive to watch for improvements in our methods.

Periodic meetings are also conducted between Production and Shipping or with Marketing to review inventories, new packaging and shipments. In this way, packaging is properly coordinated between all departments affected with its ultimate use or design.

S. W. Harshbarger, *General Plant Foreman, Flako Div., Quaker Oats Co., New Brunswick, N. J.*: We attempt to protect our packaging materials along the same lines as a safety program in saving manpower. It is mainly a matter of educating operators of the equipment and the maintenance crews that these materials are expensive. In addition to this, we of course take certain other precautions.

Our packaging materials come in palletized. Chipboard comes in rolls. Polyethylene comes in containers, wax paper comes in on a skid with 12 rolls to a skid. Printed foil also comes in on skids. These are all stored in a warehouse and used as needed. We maintain wide aisle space and make sure they are not piled where they can be run into. We have to educate people not to run into them. We talk to the maintenance people and see that the units are taken care of properly so that materials aren't spoiled. We have mats for use in case rolls of wax paper are dropped.

We store the material in such a way that the tow motors and lift trucks don't run into them. These tow motors bring the materials to the processing lines and we plan each day's run. We usually keep about a five-day supply so as not to tie up a lot of money.

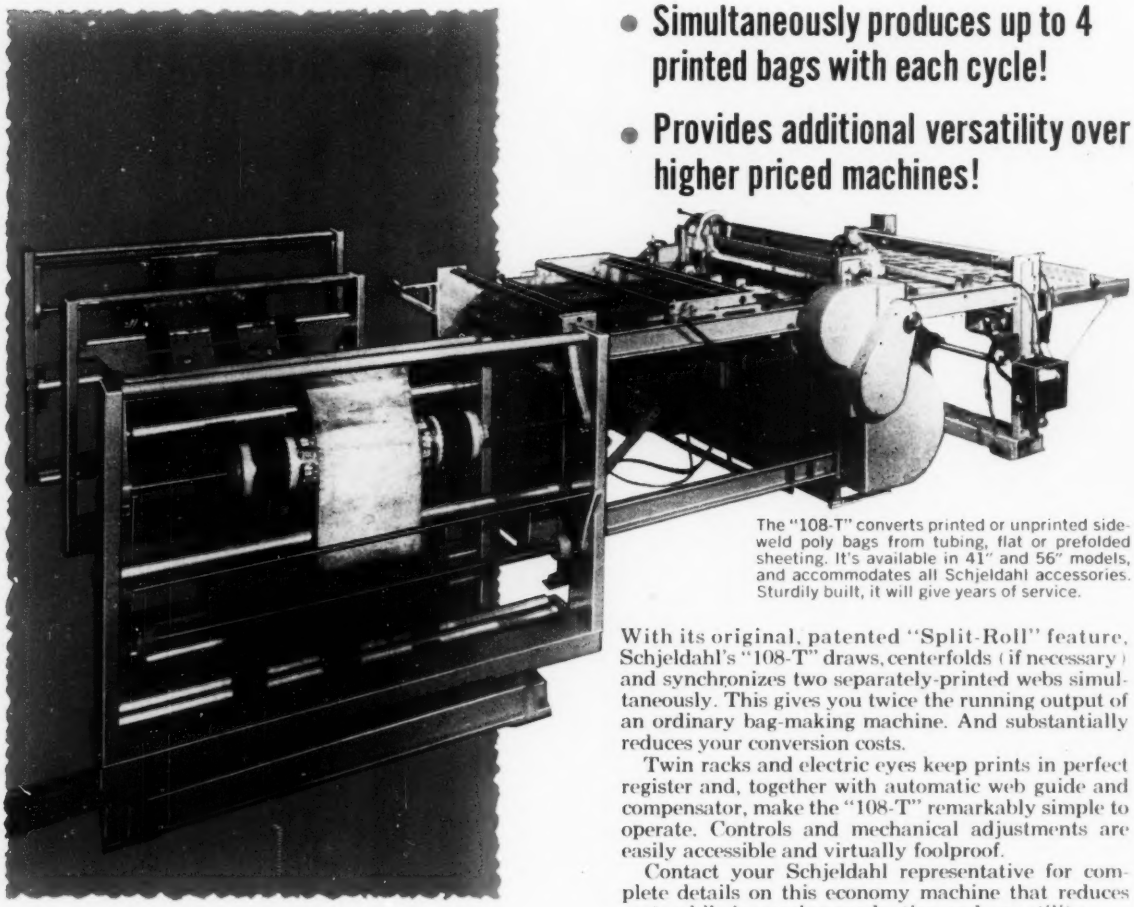
Much of our product comes in aluminum pans and these have to be handled very carefully. These pans come in containers of 1,000 to a case. The dividers and corners are strengthened and if they are the least bit bent, they will not go through the automatic lines. It takes good materials to keep the machines running efficiently. I always say that your operation is no better than your glue and equipment. Our suppliers are always checking our cartons and paper, and they change their glues to meet our materials.

Clifford Coulter
Manager, Invoice Dept.
Higginbotham-Bailey Co.
Dallas

Preventing expensive materials from being misused is a particularly acute problem with us in the use of our boxes. We do not have to use new boxes. Except for parcel-post shipments, [*Continued on page 195*]

NEW SPLIT-ROLL* "108-T"

Schjeldahl's economy bag-making machine



- **Simultaneously produces up to 4 printed bags with each cycle!**
- **Provides additional versatility over higher priced machines!**

The "108-T" converts printed or unprinted side-weld poly bags from tubing, flat or prefolded sheeting. It's available in 41" and 56" models, and accommodates all Schjeldahl accessories. Sturdily built, it will give years of service.

With its original, patented "Split-Roll" feature, Schjeldahl's "108-T" draws, centerfolds (if necessary) and synchronizes two separately-printed webs simultaneously. This gives you twice the running output of an ordinary bag-making machine. And substantially reduces your conversion costs.

Twin racks and electric eyes keep prints in perfect register and, together with automatic web guide and compensator, make the "108-T" remarkably simple to operate. Controls and mechanical adjustments are easily accessible and virtually foolproof.

Contact your Schjeldahl representative for complete details on this economy machine that reduces costs while increasing production and versatility.

- Two 48" unwind stands with automatic web guide, two 42" centerfolders, automatic web compensator with Eaton Dynamatic Drive. Twin Dietz electric eyes, twin racks with mechanical running length adjustment.
- More than 120 cycles per minute running four bags per cycle.
- Heat control, separate variable speed drives on sealing, conveying and stacking sections. Adjustable conveyor and pick-off. Adjustable corrugating stacker. Exclusive slide-action knife.
- Versatility of both side-weld and bottom seal with fast change-over available.
- Full range of Polyethylene – flat or gusseted, tubing, flat or prefolded sheeting, printed or unprinted – .00075 to .004.
- Continuous oiling system in main drive. Rugged cast chassis with typical Schjeldahl durability built into every part.
- Bag sizes from 3" x 3" to 30" x 40".

Two other models in "108" economy series available. Ask also about our extra-wide side-weld equipment.

PRODUCTS GT SERVICES

G.T. Schjeldahl Co.

NORTHFIELD, MINNESOTA

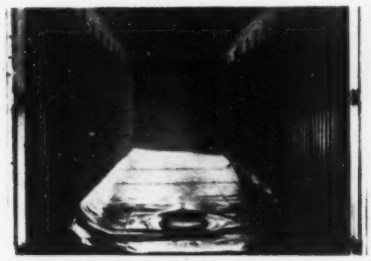
Putting Tomorrow's Materials to Work Today

SATELLOON* Schjeldahl

U.S.I. POLYETHYLENE NEWS
A series of advertisements for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

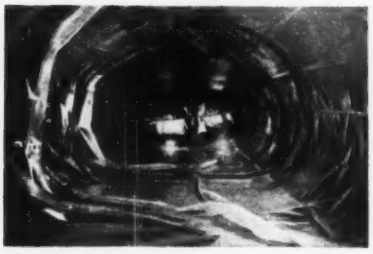
Disposable food-grade polyethylene liners are being used within large collapsible containers to haul edible liquids—milk, fruit juices, molasses and vegetable oils. The containers, recently introduced by a California company, can be carried on any van or flat-bed trailer, including refrigerated vans. They come in 22-, 30-, or 34-foot sizes, having capacities of 2,750, 4,000 and 4,600 gallons, respectively.

Following delivery, the disposable polyethylene liner is removed and the container rolled into a compact package, freeing the vehicle for a return trip with dry freight. To use the container again, it is unrolled on floor of truck and inflated. A sanitary poly liner is then easily spread within the container and also inflated—ready for another load.



Van-Tank is first unrolled on floor of trailer, inflated with low pressure air.

Sanitary plastic liner is quickly spread, with no contact with interior of liner.



Liner itself is then inflated, and Van-Tank is ready to receive its load.

Silver polish in a polyethylene tube stays creamy, won't dry out or cake up, and is more convenient to use. The exact amount needed can be dispensed right where it's wanted. And, when the squeeze is relaxed, excess is drawn back by the tube. New tube is printed in blue and red on white background, has a stand-on cap.

U.S.I. Announces New Black Polyethylene Extrusion Coating Resin

Easy-to-Process PETROTHENE® 201-220 Offers Excellent Adhesion, Good Barrier Properties

A new polyethylene resin, PETROTHENE 201-220, for extrusion coating where black film is required, has been developed by U.S.I. Its uses include automobile door liners, agricultural mulch coated paper, packages for photographic film or paper. It is *not* intended for film extrusion.

Packaging of nursery stock for retail sales is one of the applications expected for kraft or foil coated with U.S.I.'s new black polyethylene extrusion coating resin.

PETROTHENE 201-220 is characterized by its excellent adhesion to substrates, effectiveness in providing a light and moisture barrier, low moisture content, excellent processability. Density of the base resin is 0.916. The melt index is 4.0 to 5.5.

More than 90% adhesion was recorded for 1-mil (25-micron) coatings of the new resin tested on a Perkins-Southwick Bond Tester at U.S.I.'s Polymer Service Laboratories. The substrates predominately used with PETROTHENE 201-220 at the present time are 40-, 50- and 99-lb kraft liner board. The resin has also been coated onto aluminum foil for photographic film pouches. However, such non-porous substrates must first be primed to obtain good adhesion.

Good carbon black dispersion and absence of non-homogeneous, hard particles contribute to the resin's barrier properties—effective at coating weights of 0.75 mil (19 micron) or more.

The low moisture content of PETROTHENE 201-220—normally much below the maximum allowable 0.05%—eliminates any need for drying before extrusion.

Optimum Extrusion Conditions

Extrusion stock temperatures between 590° and 610°F are recommended for best results with this resin. Excellent black coverage will be gained with either a matte-finished chill roll for a dull finish coating or a highly-polished chill roll for a glossy coating. The resin's good processing characteristics permit economical haul-off rates.

Additional technical data on PETROTHENE 201-220 can be obtained by writing Technical Literature Dept., U.S.I., 99 Park Ave., New York 16, N. Y.

Booklet Details Uses For Powdered Polyethylene

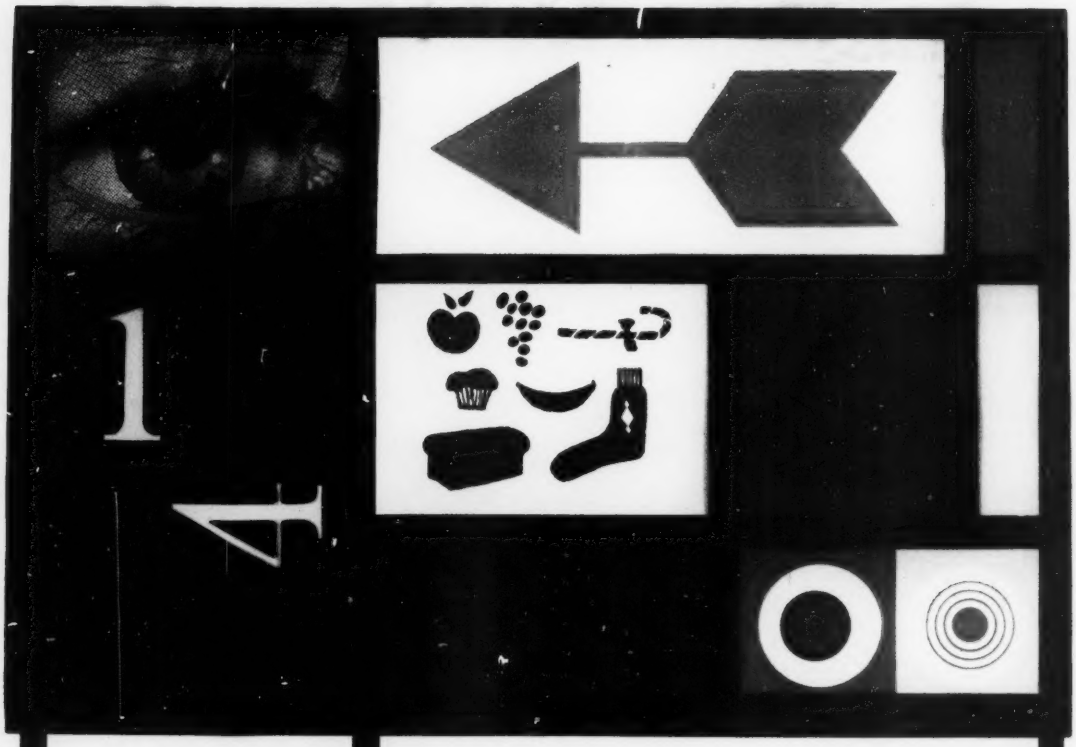
U.S.I. has published an 8-page booklet which explains in detail how U.S.I.'s finely divided or powdered polyethylene, introduced under the trade name "MICROTHENE", is used. Applications covered—many of which are not feasible with conventional polyethylene—include metal, textile, and glass; large moldings; and miscellaneous uses such as rubber additive, wax additive, and anti-tack agent. Data are also given on the sizes and grades of MICROTHENE polyethylene resins available. Copies may be obtained by writing to Technical Literature Department, U.S. Industrial Chemicals Co., 99 Park Avenue, New York 16, N. Y.

Flower Pots Made from Coconut Husk Fibers with Aid of Polyethylene

In Puerto Rico, polyethylene film is being used as a mold liner in the production of plant pots from "Coir" fibers—the commercial name for the product obtained by defibering the husk of the coconut. These fibers—which are heavily lignified—yield potash and phosphoric acid on decomposition, so offer considerable value as fertilizer. Urea formaldehyde serves as a binder.

The developer of this process reports it has been in successful use for two years, credits polyethylene film with making it possible. Illustration shows how he lines mold cavity and punch with polyethylene.

Punch, mold cavity, and finished plant pot made of coconut fiber with help of polyethylene film.



Colorful Polyethylene

...offers powerful sales advantages

Every color of the rainbow — from brilliant hues to subtle pastels can be printed on clear polyethylene film. Colorful designs, sales messages and product information on your packages produce attractive showcases that draw buyers to your products.

Polyethylene is economical. Polyethylene is the least expensive high clarity film you can buy. It can be printed economically at high speeds, with sharp registration and good ink adhesion. Add to this the soft, natural flexibility and durability of polyethylene and you have a versatile packaging material that offers you powerful sales advantages.

Colorful polyethylene packages are now being used for a host of applications, including produce, dairy, bakery, laundered shirt packaging, and soft goods overwrap. Packages can be formed on automatic machines . . . sealed by heat.

U.S.I. produces a number of PETROTHENE® resins ideally suited for producing packaging film of every type — clear or printed, thick or thin, tough or tearable, slippery or sticky. Extruders and converters make these films available in a wide range of thicknesses, with a combination of special properties to meet your every packaging need.

Discuss your packaging requirements with your film supplier. He'll be glad to recommend the type of polyethylene film best suited to your particular application.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

World Report

Abstracts from foreign packaging magazines

JAPAN

Visitors judge contest in Osaka

Unusual feature of Japan's first national packaging competition was the judging by a poll taken of visitors to an exhibit of the packages presented in Hanshin Department Store, Osaka. More than 1,000 packages were entered in the competition, sponsored by *Atarashii-Hoso*, Japanese packaging journal. Visitors polling cards totaled 4,078. On their voting cards the visitors were asked to note the reasons for their choices, which were made according to one or more of the following seven categories:

- Sales appeal and impact
- Appropriateness and elegance of design
- Ingenuity of construction
- After-use value
- Convenience value
- Recognition value
- Popularity

Using the poll as a guide, a judging panel of five members—comprised of a designer, advertising, sales-promotion and supplier-company executives—made 12 awards. Special importance in the judging was attached to original work to act as an inspiration to Japanese industry. The judges commented on the high standard of the entries, stating that they had found "nothing which was poor or worthless, nor anything which was impractical."*

AUSTRALIA

Brickbats and bouquets from Sydney housewife

There's a familiar ring to the words of an Australian housewife who tells "why some products drive her to frenzy because their packages are designed to catch the eye, but not for easy economical use." In *Pakit* (Australia), she says: "I'm a very important person—not as an individual—but as one of the legion of housewives who control the spending of the weekly pay packet.

"Countless times I realize that what I thought were most brilliant purchases were in fact sad mistakes.

"A mammoth-sized bottle of tomato juice seemed like such a bargain—until I got home and found it wouldn't fit into one of my standard-sized kitchen cupboards. Left on a working surface, it soon got knocked over and half the bargain contents spattered across the kitchen floor!

"I think the makers of Lux, Persil, Rinso, Omo and others make the slotted openings in their packets too large. It's not only difficult to avoid tipping too much powder into the machine, but if the packet gets knocked over—which is liable to happen very easily with kids around—large amounts of powder spill out. What a waste!

"To be recommended are numerous packets of soup, tempting to the eye with their colorful pictures and printed with sensible ideas for using the soups in different ways. Packet soups are much easier to store than other kinds, though I have my doubts as to how long they can be stored.

"Pepper sold in a cardboard container with a tin lid is irritating to the housewife when she has to spoon it out between sneezes. A pour package with a dispensing lip would be a great help here.

"Vanilla essence is another product that would be much better packed in a bottle with a top like that on Angostura Bitters or Nestle's Maggi Aroma.

"Bouquets to cigarette manufacturers for their cellulose film tear-strip packets and a brickbat to the confectionery manufacturers for their failure to emulate the idea.

"One thing that invariably influences my purchase is the sheer bliss of buying a good-quality twin set or blouse in a sealed polyethylene bag—but please don't forget to leave one open to feel the quality. It takes more courage than I can muster deliberately to open a sealed garment for inspection with a salesgirl frowning at me.

"My final plea: please don't overpack cheaper goods like children's socks and underpants. As prices continue to soar and more glamorous packs appear, the growing suspicion lurks in my mind that some of these maddening price increases are due to packaged goods."*

New PVC film plant

Facilities for the production of 45-million yards of PVC film and sheet will be available for Australia on completion of a new plant in Sydney, according to *Pakit* (Australia). The company says that the calendering equipment is the most modern in the southern hemisphere and the only one of its type in Australia. Materials made will range from flexible 0.002 in. through to semi-flexible and rigid 0.045 in. A three-color rotogravure printing press and laminating, embossing and slitting machines are presently being installed for converting the film and sheet material.*

FRANCE

Is package selling power measurable?

The various methods of predetermining the sales effectiveness of packages are described in a scholarly discussion by Pierre J. Louis in the technical section of *Emballages* (France). Mr. Louis reviews the visual techniques of testing and motivation research used in the United States and the experience with visual-testing procedures and psychosociological study in France. He concludes that these methods can be useful aids in measuring package effectiveness if carefully adapted to each particular case. He warns against depending on these aids as "sort of a magic wand" to assure success, but points out that those who ignore these new scientific approaches may find themselves losing out to more dynamic competitors who will profit by keeping an open mind to the spirit of research.*

CANADA

Extrusion-coating development to fill gap

Two Canadian firms are moving to fill a 10-year-old gap in facilities for extrusion coating with thermoplastic materials on films and foils in Canada, according to *Canadian Packaging*. Until this past summer, extrusion coating of flexible materials had to be done in the United States, this publication points out. Canadian converters can expect two major advantages from the development: (1) Lower costs (savings are likely to be, at the least, equivalent to the amount being paid in U.S. import duties). (2) Faster delivery of the thermoplastic materials (two or three days in an emergency, according to an estimate by one supplier).*

WEST AFRICA

Emerging commercial sophistication

Upgraded package design for two West African soft drinks—Krola and Tango, products of two United African subsidiaries, Nigerian Breweries, Ltd., of Kaduna and Kumasi Brewery Ltd., Ghana—reveal changes arising from developing taste, international competition and the patriotic desire of the people of the emerging nations to support local in-

*For additional information, write: World Report Editor, MODERN PACKAGING, 575 Madison Ave., New York 22.

dustry. To offset competition from international brands in the king-size 10-oz. bottle—notably Pepsi Cola—the African companies have evolved attractive package design for their own products. Originally Krola and Tango—a cola-type drink and an orange drink—were put up in old stout bottles, with labels suitable for a very unsophisticated market, says *Sales Appeal & Packaging Technology* (England). New private-mold bottles, pleasing in appearance and easy to grip, carry fired-on enameled labeling, with red lettering on yellow for Krola and white lettering on blue for Tango.*

GERMANY

Aerosols at Interpack

Discussions with aerosol manufacturers at Interpack suggested that aerosol sales in Germany are at just about the same level as in the UK, says *Packaging News* (England). Estimates put sales in Germany at 25-28 million in 1959 and a hoped for 32-40 million in 1960. Last year insecticides accounted for about 11½ million pressure packages; hair spray, 6 million; air fresheners, 3½ million, and suntan preparations, 2 million. One German firm showed an aerosol can with a "staked" or crimped-in valve. The valve has no mounting cup which must be sealed into the aperture of the aerosol dome. Instead, it is crimped into the very top of the one-piece tinplate dome which is supplied already seamed onto the can. The can may be filled through the bottom before the base is seamed on, or filled through the valve under pressure after the base is seamed. A Swiss aerosol-packaging equipment company showed a new propellant charger that will feed 100 gm. of propellant through a valve in little more than a second. In an automatic line it can fill 6-oz. cans at 25 to 30 per minute.*

Pneumatic cushions for shockproof packing

Specially designed pneumatic cushions, with a compression strength of seven tons, have been introduced in Germany for the shockproof packing of expensive instruments, electronic equipment and similar goods, according to *Packaging Review* (England). The cushions are made of double-thickness plasticized PVC to assure reliable airtightness and are fabricated by high-frequency welding. They are made in strips in which they are separated from each other by a broad cutting margin. Two sizes are available and they may be employed satisfactorily between temperatures of 20 to 60 deg. C.

In use, the cushions are stapled through the skirt, which fringes them on two sides to the inside of the packing case or crate. The 10-by-10-cm. size is designed to bear a static load of not more than 10 kg.; the 24-by-24-cm. size, a static load of not more than 30 kg. These loads are calculated to provide an adequate safety factor should the container be dropped in transit.*

HUNGARY

Fully automatic ampoule marker

An automatic machine for marking ampoules, announced by a firm in Budapest, is designed to carry out every process of marking from the feeding of ampoules to the removal of the marked ones. It has an operational capacity of approximately 7,000 to 8,000 pieces per hour, according to a description in *Packaging Review* (England). The equipment consists of two mechanically connected parts, a feed hopper and equipment for the supply of marking ink. The ampoules are placed in the feed hopper, where a chain continuously feeds them into the machine. Smooth action prevents breakage or cracking of thin walls. A guide chute is connected to the intermittently rotating walled disk, with grooves corresponding to the diameter of the ampoules, cut into it. Spiral springs at the bottom of the grooves enable the ampoules to sit comfortably in the grooves. The springs are to take up the impact of the ampoules moving intermittently with the chute to prevent breakage. The springs also make up for any differences in size and every ampoule is under identical pressure under the marking rolls.*

ENGLAND

Low-priced self-locking cartoning machine

A new machine for setting up folding boxes, using a mechanical interlock rather than a latex seal or heat seal is described in *Packaging* (England). The mechanical interlock reportedly provides a rigid assembly and, when used both for the base and the lid portion of a telescoping or slip-lid carton, is adequate for almost all purposes for which a rigid box might be used.

The folding-box unit is mounted on bearers and can be readily changed over for box size or format. Folding fingers inturn the flaps at the carton ends and thereby effect the interlocks which secure them. The machine can be operated as fast as the blanks can be fed, but an automatic feed is under development. The standard machine can accept box blanks of flat sizes up to 14½ by 10½ in. The scope of the machine extends to any type of carton construction having a press-in lock. By adaptation, it can be used for setting up latex-seal cartons, it is stated.*

Color standards to measure pH

A set of standard glasses for printers and papermakers using the "smear" technique for measuring the pH of paper is now available commercially, according to *Patra News* (England), bulletin of the Printing, Packaging and Allied Trades. The introduction of these glasses follows research carried out by Patra into the accuracy obtainable by the smear technique in which an indicator dye is applied to the paper surface, the resultant color being compared with a Lovibond Comparator. The Patra experiments showed that unreliable results are often obtained due to the fact that colors do not match up with the comparator glasses. The new color slides consist of nine standard glasses which match the commonly used indicators. It should be emphasized, the article states, that the most accurate way of measuring pH is to use an electrical pH meter, but this is costly equipment. Another established way is to make a water extract of the paper and to establish pH by means of a conventional Lovibond Comparator. The smear technique, however, it is said, gives satisfactory results for everyday purposes quickly and more cheaply.*

Polyethylene reclosures supplied with crowns

Red polyethylene reclosures are being used in England on large-sized bottles of Corona soft drinks which are initially sealed with crown caps. Hitherto, according to *Packaging Review* (England), the use of crown caps for this brand has been restricted to the small "one-drink" bottle size. The large family sizes were sealed with internal or external screw caps or swing stoppers which could re-seal the bottle to retain the maximum possible carbonation in partly consumed sparkling drinks.*

British glossary of paper

A new British standard glossary of paper, stationery and allied terms largely follows definitions so far decided by the International Organization for Standardization. Announcement in *Packaging Review* (England) says there are two appendices: one lists terms not accepted by the UK, with reasons for objection; the other lists terms that have been accepted with some compromise. The whole gives an account of work to devise international terminology that will have a bearing on customs' classifications for papers. The standard 3203:1960 can be obtained from the British Standards Institution.*

*For additional information, write: World Report Editor, MODERN PACKAGING, 575 Madison Ave., New York 22.

Eastman now offers formulators and converters 7 basic types of polyethylene

New Epolene resins broaden formulation range of wax coatings

The wide range of properties available in Eastman's series of low-molecular-weight polyethylene resins provides formulating flexibility never before possible. With the addition of three new resins (Epolene LVE, HDE and HD), formulators and coaters of paraffin waxes can now choose from among seven different types to achieve that combination of properties which best meets the requirements of the paper and packaging industries.

Epolene polyethylene improves the properties of paraffin blends in these ways:

- reduces flaking
- increases toughness
- increases abrasion resistance
- improves adhesion
- improves resistance to thermal shock
- increases mileage
- raises blocking temperature
- improves gloss

Each type of Epolene polyethylene contributes, to a greater or lesser degree, to the improvement of each of these properties. Thus, through selective blending, you can formulate waxes of optimum performance for your equipment and service.

Epolene E *oxidized* • In general, the oxidized Epolene resins improve the adhesion of paraffin blends to a greater degree than do the non-oxidized types. Among the oxidized types, Epolene E is superior in this respect, and in its ability to increase the softening point of paraffin blends.

Epolene LVE *oxidized* • When good adhesion and a low cloud point are important, Epolene LVE should be considered as a component in paraffin blends.

Epolene HDE *oxidized* • This is the first high-density, oxidized low-molecular-weight polyethylene available. Epolene HDE is suggested for use in wax blends that must exhibit good adhesion and mileage.

Epolene N *non-oxidized* • Epolene N contributes maximum hardness and high tensile strength to paraffin blends. It also enables coaters to obtain excellent mileage.

Epolene LV *non-oxidized* • Epolene LV is one of the easiest to handle among the low-molecular-weight polyethylene resins, because of its low melt viscosity. Paraffin blends containing Epolene LV also exhibit low viscosities at application temperatures, and relatively low cloud points.

Epolene HD *non-oxidized* • Epolene HD is the hardest of all the low-molecular-weight polyethylene resins, yet is easy to handle due to its low melt viscosity. It produces paraffin blends that have high softening and blocking temperatures.

Epolene C *non-oxidized* • Epolene C, a unique polyethylene resin, has the highest molecular weight and lowest density of all the resins in the Epolene series. Contributing maximum tensile strength in conventional blends, Epolene C is also being used to advantage in coatings in which it is the principal component.

If you are using low-molecular-weight polyethylenes in your wax formulations, or are considering their use, investigate the complete Epolene series. Your Eastman representative will gladly explain the advantages of each of the resins in the series and will show you how to realize the most profitable use of them in your formulations. Write today for more information.

Physical Properties of 2% EPOLENE-Paraffin Blends
(130° AMP Paraffin)

PROPERTY	EPOLENE TYPE						
	E	LVE	HDE	N	LV	HD	C
Density *	0.938	0.939	0.956	0.928	0.925	0.938	0.907
Viscosity, cps.	4.8	5.5	5	5.2	4.3	5.4	5.2
Ring and Ball Softening Point, F.	145	138	140	140	140	145	139
Penetration Hardness, 0.1mm.	15	11	11.5	15.6	13.9	13.9	13.3
Adhesion, Psi.	13.5	13.5	11	8	8.5	5.5	10.5
Cloud Point, F.	174	165	183	185	176	190	170
Consumption, G. 100 in.^{2}	3.79	4.49	3.29	3.69	3.86	4.71	4.32
Tensile, Psi.	455	435	280	470	465	355	470

*Density of unblended Epolene

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York; Philadelphia; St. Louis. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

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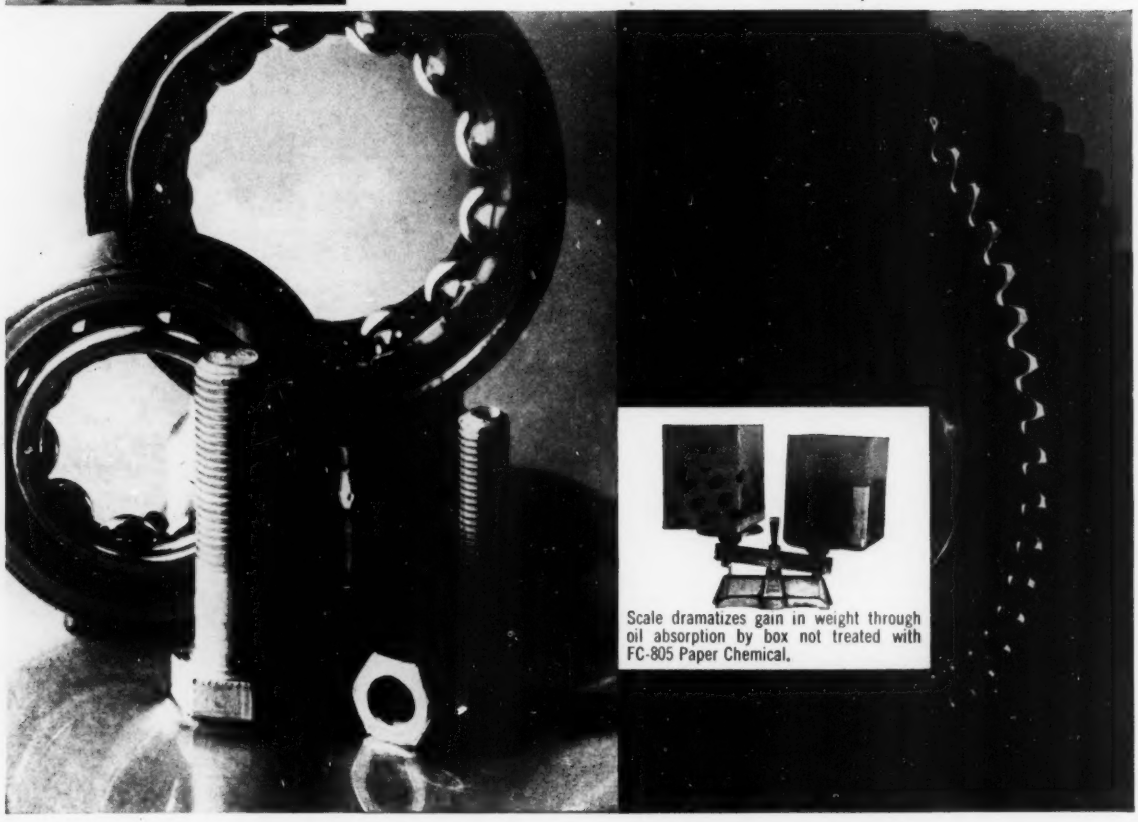

You can lock grease and oil inside paper boxes treated with 3M Brand FC-805

PAPER CHEMICAL

Proof positive that FC-805 Paper Chemical locks in oils and greases necessary to your products—and helps keep your paper carton clean and readable. The box on the left (inset above) was treated on the inside only with FC-805. Its counterpart on the right was not treated at all. Then, both were packed with sweeping compound and subjected to boiler room temperatures of 110° F. to 120° F. for 48 hours. At the end of that time, the untreated box had already absorbed 13% of the oil from the sweeping compound. *The treated box absorbed none.*

Results such as this are common in the field. They can be applied to your packaging problems, too. And with FC-805 Paper Chemical, there's no sacrifice of color, strength, porosity, flexibility, or any other important characteristic. That's because it is a member of the 3M family of fluorochemicals. It is not a continuous film or coating. Rather, *it treats each paper fiber* for maximum resistance to grease or oil.

FC-805 Paper Chemical can help you: Prevent unnecessary wax penetration on waxed papers. Permit use of thinner-than-normal polyethylene coatings. Prevent grease crawl and staining at seams and closures in multi-wall bags. Help "hold out" dope and prevent strike-through in carbonizing tissue. Give unparalleled resistance to asphalt penetration. Permit packaging of greasy and oily parts without penetration. In these many ways, FC-805 Paper Chemical has helped industry solve packaging problems of long standing.

And for flexible, see-through packaging—look to KEL-F® Brand Plastic. Film made of this product is completely impermeable to water vapor, virtually unaffected by heat, caustics, acids, temperatures, rough handling, storage and shipping. Ideal for paints, cosmetics, pharmaceuticals and chemicals, it provides maximum packaging security, good looks and convenience.

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CHEMICAL DIVISION

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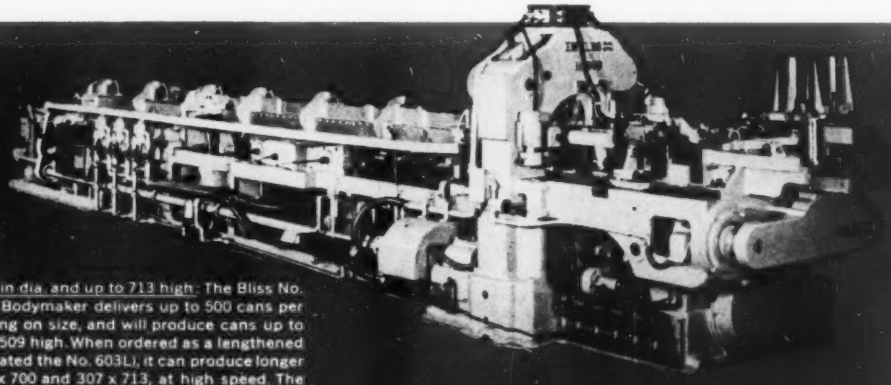
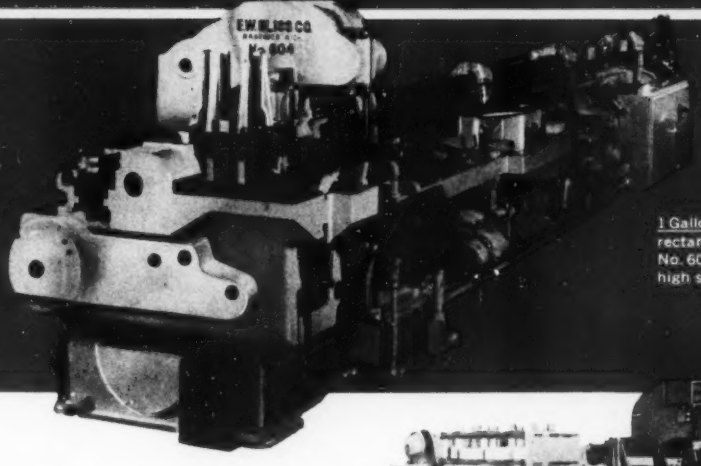
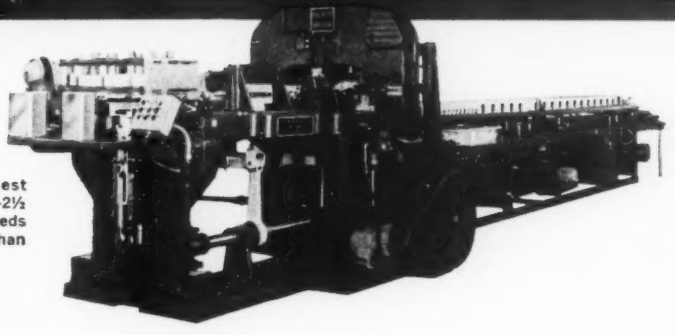


From 202 to 603 in dia. and up to 713 high: The Bliss No. 603 High Speed Bodymaker delivers up to 500 cans per minute, depending on size, and will produce cans up to 603 diameter by 509 high. When ordered as a lengthened machine (designated the No. 603L), it can produce longer cans up to 603 x 700 and 307 x 713, at high speed. The 603L Bodymaker has an operating speed range of 175 to 300 per minute.



1 Gallon and 5 Quart Cans, both round or rectangular are produced by the Bliss No. 604 Bodymaker at correspondingly high speeds.



The New No. 014 Bodymaker: The largest in the Bliss line the No. 014 produces 2-to-2½ gallon rectangular gasoline cans at speeds up to 60 per minute, 50-to-60% faster than any existing equipment.

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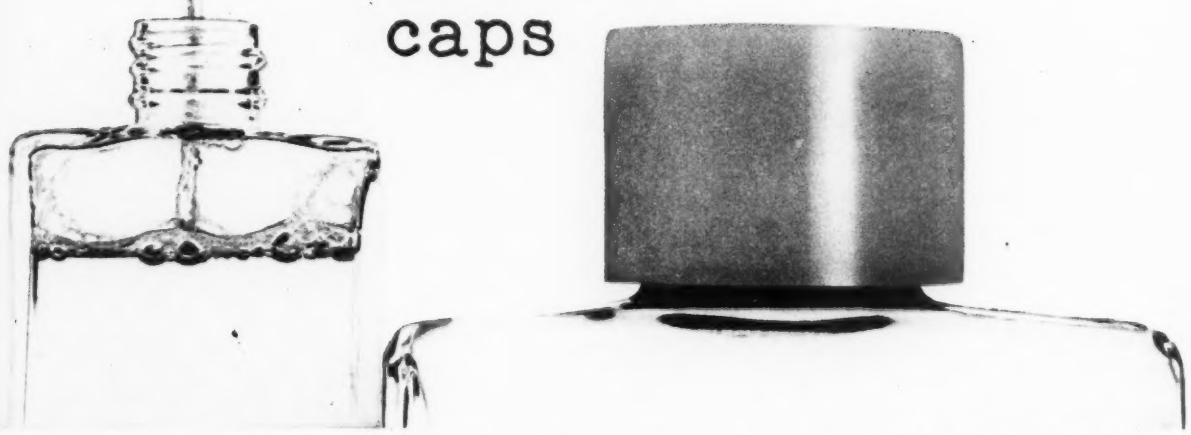

Manufacturers of consumer products using container caps know that BEETLE® plastic has never failed them in twenty-five years of steady use..... Even perfume esters and acetone solvents make no headway against molded BEETLE urea.....On the shelf, BEETLE closures won't build up electrostatic charges that attract unsightly dust. And they hold firm and tight during shipment and storage..... BEETLE comes in any color, can be molded in practically any shape, to fit any design..... Keep your customers happy and content by specifying BEETLE plastic caps every time.....

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Editorial Memo

Quantity or quality?

During after-hours conversation at the Packaging Institute Forum last month, a man who is one of the real leaders and staunch supporters of the Institute remarked: "The best friends of the Institute also are its severest critics." This editorial is written in that spirit.

The Institute has grown considerably in the last few years, in both breadth and stature. It is becoming increasingly professional in character, with a 64% growth in professional membership in the last year. Recent Forums have been extensively organized and conducted with a certain amount of efficiency, and this year's was no exception.

There is, however, a danger that quantity may be mistaken for quality, and that in the push for ever bigger programs the bars may be let down to commercialism of a type which has no place in a professional society.

Two criticisms heard frequently this year cannot be ignored:

1. Too many papers turned out to be out-and-out selling pitches for a particular company or product. Program chairmen tell us that they spotted this trend in the papers as they began to come in—but too late to do much about it. The control lies in more judicious selection of speakers, in a clear understanding of ground rules to start with, and in screening of papers far enough in advance so that they can be revised or rejected if they do not measure up.

2. The multiplicity of papers and concurrent seminars was bewildering and frustrating to any registrant who sought to cover all of his interests. Four concurrent sessions in one morning are too many. Absorbing the content of 67 papers in two and a half days is too much for anyone.

We do not hesitate to advance these criticisms because we think the answer is so easy. A Forum program should not be a catch-all for the special enthusiasms of every member of the program committee. Someone in the end must accept and reject, and narrow the program down to fewer sessions on broader subjects of interest to all packagers.

Another criticism must be recorded. It is astonishing that the Corporate Award "for outstanding achievement in packaging" should have been given for two years in a row to packagers of surgical sutures, for packages so nearly alike that those who heard the citation read at the Awards Dinner this year must have felt they were hearing a playback of last year's announcement. Without taking anything from the two fine firms—each of which did develop an outstanding package—is this $20-billion business so lacking in achievement that the honors cannot be distributed in two years beyond so narrow and special a field as sutures?

In this, as in other Institute matters, good judgment seems to have suffered in the attempt to do too much too fast—which leads inevitably into the path of least resistance.

The Editors

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From Nashua's talent with paper and packaging . . .
new products that do more for you . . .

Nashua research puts bread into poly-wraps, for low-cost see-appeal...soft new "fresh-baked" feel!

Bakers have long been interested in polyethylene for bread packaging. It costs less than other transparent film and gives bread a softer, fresher feel. Nashua now makes polyethylene bread packaging practical. Nashua supplies special poly-film, Nashua-developed bands, and special new end labels with low-temperature "flash activation" and astonishing adherence for strong end sealing.

Nashua's wrapping machine attachment is precision engineered for durability. Available for converting existing equipment for polyethylene packaging.

This new "poly-package" is another example of Nashua's productive research with paper and printed packaging. Find out how Nashua can help *you* cut costs . . . improve production . . . or stimulate sales. Write Nashua Corporation, Dept. MP-120 44 Franklin Street, Nashua, New Hampshire. In Canada, Nashua Canada Ltd., Peterborough, Ontario.

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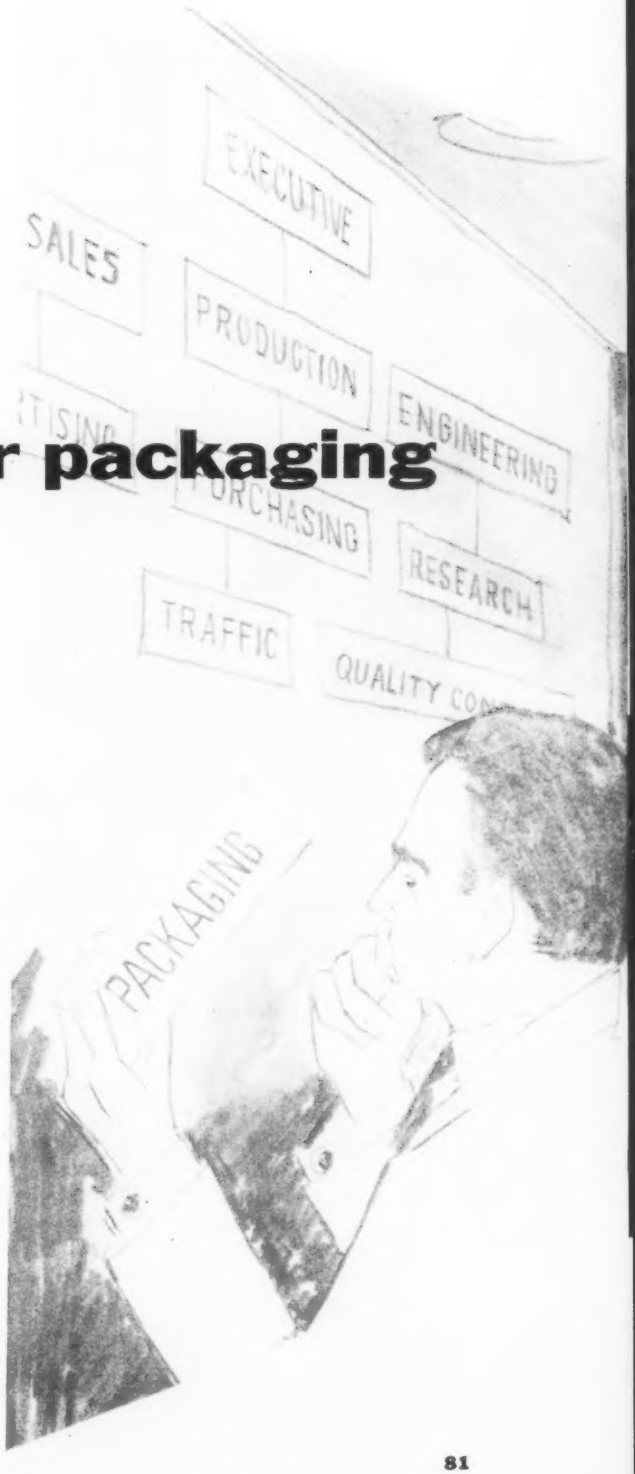
MODERN PACKAGING
December 1960 Vol. 34 No. 4

A study by MODERN PACKAGING *for its Encyclopedia Issue and a scholarly analysis by a professor at a leading technical institute throw new light on where packaging belongs in corporate structures*

Organizing for packaging



How to "package" the packaging department itself is one of industry's major packaging problems. As packaging looms continually larger on the business scene, certain patterns for channeling packaging functions seem to be emerging.

Yet there is still such wide diversity in organizational set up to handle packaging that the key questions for many companies must still be answered:

Who reports to whom?

Who makes the decisions?

Should there be a packaging director? A packaging committee? Or both?

What is the best way to coordinate packaging functions that necessarily must cut through almost every phase of operations—merchandising, sales, marketing, production, engineering, advertising, research, purchasing, quality control and legal—and often between numerous product divisions?

If a formal packaging department is established, at what organizational level should it be placed?

Two studies—one just completed and the other still in progress—throw some interesting light on this whole subject, indicating significant trends since these questions were brought up in two major articles in MODERN PACKAGING four years ago.* A discussion of these studies, it is believed, may be especially helpful to those firms still uncommitted as to formal packaging organization as well

*See "Packaging Organization," MODERN PACKAGING, March, 1956, p. 145, and "Behind the Packaging Decision," MODERN PACKAGING, July, 1956, p. 73.

as to those managements that may wish to compare their organizational programs for packaging with what others are doing.

One of the studies concerns a report of procedures in 86 companies, compiled by the editorial staff of the MODERN PACKAGING *Encyclopedia Issue* with the help of members of the Packaging Institute, the complete report of which is published in the 1961 *Encyclopedia Issue* currently being distributed.

The other deals with a preliminary analysis for MODERN PACKAGING by Prof. Dale S. Beach, Rensselaer Polytechnic Institute, of a research project in organizational and other managerial aspects of packaging presently being conducted by the Management Engineering Dept. of Rensselaer Polytechnic Institute under a grant from American Management Assn., which will publish the final results some time during 1961.

The two studies fit well together, because the organizational patterns revealed by MODERN PACKAGING's numerical count of Packaging Institute members is supported by Prof. Beach's scholarly analytical conclusions.

Survey of 86 firms

Seemingly bearing out a trend noted during the past few years to make one individual responsible to management for packaging, 76 firms out of the total 86 responding to MODERN PACKAGING's study for its *Encyclopedia Issue* say they now employ a packaging coordinator or director. In 43 of these firms a committee functions in addition to the individual coordinator or director, but the 33 other firms have a coordinator or director only. The 10 remaining firms say they administer packaging with a committee alone. This pattern differs considerably from a 1956 study in the food field, showing that 44% of the firms responding at that time relied on a packaging-committee structure of organization.

In decision making, the study shows sales and marketing departments to be the most influential group for determining packaging plans and policy. The packaging department is listed as second, and a vice president and president third and fourth most influential, suggesting the increasing influence the packaging coordinator or director may have in decision making. Quite a different order of importance is shown in carrying out packaging operations after decisions are made. Where committees administer execution of policy and production, the production department is most influential, with the packaging department a strong second.

The continued trend to centralization of packaging activity is suggested by the 71 firms reporting change in their packaging organization. Among these, 57 say they are consolidating the functions for the company as a whole; only 14 say they are decentralizing administration of packaging. And of 25 firms whose packaging activities are now decentralized, eight coordinate by means of a committee and 17 have a coordinator for the whole.

The 86 firms answering the questionnaire represent a fairly inclusive cross section of product types, with foods, beverages, pharmaceuticals and cosmetics, chemicals, paper and miscellaneous industrial items figuring most prominently. More than 70 of the respondent companies reported annual sales in excess of $5 million.

Overwhelmingly, the *Encyclopedia Issue* study revealed, the two major objectives in package planning and selection are, in this order: (1) consumer acceptance, (2) protection. And these considerations apparently have a great deal to do with the reasons for the wide diversity of responsibilities, procedures and location of packaging operation pointed out in the discussion which follows.

How organize packaging? Study shows diversity

By Dale S. Beach[1]

In making a first-hand study of the organizational arrangements which scores of companies use for carrying out packaging functions, including all ramifications, one is impressed immediately by the wide diversity of structures, jobs and ways of handling this immensely important activity.[2]

Most of the packaging activities may be centralized under one head in a specifically designated packaging department, but more commonly we find that these functions are shared by such departments as advertising, engineering, purchasing and manufacturing. In one large firm in the optical-goods and equipment industry, the package-design department is located under advertising, with package engineering reporting to the engineering departments in the plants. The purchasing manager is responsible for packaging in one well-known firm in the cosmetics and proprietary-medicine field. In a food-processing

[1]Dept. of Management Engineering, School of Engineering, Rensselaer Polytechnic Institute, Troy, N. Y.

[2]The author has been assisting in a research project in organizational and other managerial aspects of packaging conducted by the Management Engineering Dept. of Rensselaer Polytechnic Institute under a grant from the American Management Assn.

Analyzing the results *of the Rensselaer study. Left to right: Prof. Dale S. Beach, author of the accompanying article; Prof. Donald D. Deming, director of the packaging-research project; Prof. Delmar W. Karger, head of the Department of Management Engineering.*

firm, the packaging department is located organizationally in the research laboratory; while in a company engaged in the manufacture of building materials, the industrial-engineering department has over-all responsibility for package planning and package design.

What accounts for such diversity? Other functions such as accounting, design engineering, traffic, plant engineering and advertising, to name but a few, are much more standardized and stabilized. Why do not all packaging men hang their hats on the same hook?

The answer lies in the relative newness of the field. It is new in the sense that in only recent years has top management recognized the need for establishing it as an area of specialization within the organization structure. Some experimentation tends to be involved in finding the best organizational form for packaging. Secondly, it is because of the greatly different emphasis which companies accord to packaging.

The broad dichotomy is between manufacturers of industrial goods in comparison with consumer products. In the one, product protection is the major goal; while in the other, advertising is paramount with appropriate but less demanding concern for protection. A third reason for the diversity of organizational practice lies in the fact that packaging problems usually arise in connection with the performance of other more traditional standardized functions. The purchasing department customarily carries on the negotiations attendant to the procurement of materials, supplies, parts and equipment. Some of the items bought happen to be containers and packages. The creation of sketches, drawings and written copy for use in advertisements in newspapers, magazines, billboards, etc., has always been the province of the advertising department. Does the placing of advertising images, slogans and written words on a company's packages mean that this portion of the work should be taken away from the advertising department and assigned to packaging? Should package design be handled by the same department that designs the product, or should this design problem be considered a specialty in itself?

Common development patterns

While no one path leading to the establishment of a separate packaging department can be called typical, certain evolutionary forms appear very frequently. Initially, a given manufacturing firm may have no packaging specialists. All activities relating to it are handled by other departments in the course of their regular assignments. Each department gives the packaging portion of its responsibilities its own particular emphasis (it can be properly called a bias in many instances). Thus manufacturing, engineering, advertising, purchasing, traffic, quality control and even legal counsel may be involved in one way or another. Top management then decides that a coordinator is needed to blend these various interests properly. So a packaging-specialist position is established to make sure that the work gets done correctly and to insure that at least one person can be pinned down with the responsibility for results.

Another approach which occurs often consists of the establishment of a packaging committee with membership consisting of all departments having responsibilities in this area. A committee system can be used whether there exists a formalized packaging department or not. It serves the valuable purpose of unifying viewpoints, increasing understanding and achieving positive support for agreed-upon courses of action from the respective members.

Still another developmental form occurs when a manager—he may be a marketing person, the company treasurer as in one medium-sized bakery, or the product designer—is assigned authority and re-

sponsibility for most package decision making and administration in addition to his regular duties.

An advanced form of development involves the creation of an entire packaging department—this is most often found in large companies—into which have been centralized a great number of activities formerly carried on by other operating and staff units. Package design (both structural and surface artwork), testing, engineering and general administration of package planning and control are typical functions that are performed.

When centralization?

The key problem in the minds of many top management people and packaging men is when, if ever, should a separate packaging department be established? To whom should it report? At what level in the organization does it properly belong? What functions should be centralized in this department?

Let use examine those factors and conditions which tend to make it advantageous to create a separate department. Packaging functions should be centralized:

1. When the package is an important factor greatly affecting the sale of a company's product.
2. When packaging costs are significant in relation to the cost of the product to be packaged.
3. When there is enough packaging work to be performed to occupy at least one person full time. This condition is often not met for the small manufacturer.
4. When excessive complaints, delays, damage to product and inadequate attention to packaging result from having duties divided among several departments.
5. When specialization of knowledge and skills is desirable. A full-time specialist who concentrates upon a particular field of work often is able to solve problems quicker and better because he has the necessary information and know-how which a non-specialist would not possess.
6. When top management desires to place greater emphasis upon packaging activity.
7. When problems of coordination among several departments involved in packaging become excessive, sometimes resulting in buck-passing.

Separate packaging departments, apparently, do not occur in companies which do not have enough work to justify a full-time person for this activity, when packaging is of only moderate importance to promoting the sale of the product, when protection problems are simple, and when the work is being carried out smoothly and successfully by each of the various individuals in other functional areas. If centralization is carried too far, it may lead to lack of consultation among those groups having legitimate interests in package decisions.

"Why do not all packaging men hang their hats on the same hook?"

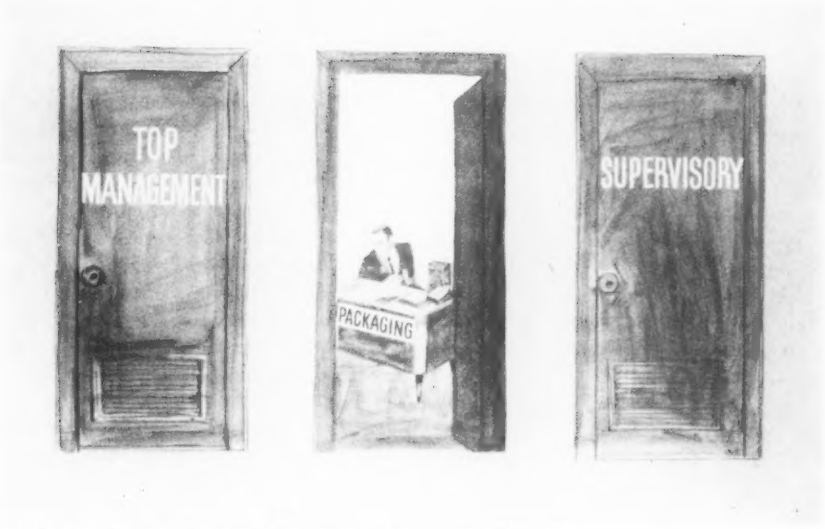
Where to locate?

Where in the manufacturer's organization structure should the packaging department be situated? Although a survey of actual organizational arrangements followed in numerous companies indicates considerable variation in practice, there appears to be a trend toward placing packaging under engineering in companies producing goods for industrial customers, while for those manufacturing consumer goods such as foods, drugs, toiletries and cosmetics, soaps and detergents, prevailing practice tends to place the packaging department under the marketing, sales and advertising complex. In consumer-goods industries, packaging is very commonly placed under the jurisdiction of purchasing. Research and development is also a frequent organizational location depending on the nature of the products produced and the particular emphasis which top management wishes to give to research.

In developing generalizations, it can be said that if the problem of consumer appeal and design of the package is paramount or critical, then the packaging department should be assigned to advertising and marketing. In those industries where problems of product protection, purity, stability, shelf life and prevention of contamination are very acute, a strong argument can be made for assigning the research and development division primary responsibilities for packaging. In the industrial-goods field, if adequate protection for least cost is the primary concern, a logical set-up is to place packaging under engineering.

At what organization level?

Generally, we find that the head of the packaging department or section is a member of middle management. On rare occasions he enjoys vice-presidential status and thus belongs



"Packaging is properly a middle-management responsibility."

to top-executive ranks. This is true for a large, diversified food-processing firm and also for a medium-sized Eastern meat-packing company. In small business firms, the president or his assistant is generally involved in package selection, procurement, design and general decision making relating to any packaging change.

Of course, the proper level in the hierarchy for the placement of the individual in charge of the packaging activities is dependent on how important the over-all objectives are to the company. But a generalization which the author believes accurately applies to most companies in the consumer-goods industries, to those manufacturing products for both consumer and industrial usage, and to some exclusively in the industrial-goods field is that it properly is a middle-management responsibility. A large segment of the work consists of carrying out procedures and practices where the policy decisions are made by someone else. Much of it is administrative, technical and artistic work.

Clearly, top-management decision making is necessary where questions of corporate identity are involved and where a whole line of packages is being redesigned—at times even one package—when the success of the business is at stake. But the packaging department does the planning, the creating and the proposing.

Supervisor needs status

At the other extreme, we think it is inadvisable to place this activity at the lowest rung of the management ladder—so low that it cannot be performed effectively. Here we find that the supervisor cannot hold his own effectively in discussions and decision making among the directors of marketing, advertising, purchasing and manufacturing. He possesses insufficient power and status among superiors. His voice becomes buried.

Assuming that the management of a company has decided to establish a formalized packaging department, it is faced with decisions concerning which functions should be assigned to this unit and which should remain or be re-assigned to other organizational groups. The choices are many and are influenced by the existing organizational structure, degree of centralization desired, geographical dispersion of the units or plants, variety of products, the people who occupy the top management positions and other considerations.

Grouping of responsibilities

Proposed here is a listing of the functions and duties which may logically be performed by a centralized packaging department. Deviations can be made to suit the needs of the particular circumstances. It should be pointed out that it is a staff activity which develops ideas, proposals, plans and procedures. More specifically, it performs largely as a service group which possesses specialized knowledge and skills. Major functions are to:

1. Serve as the administrative unit through which packaging ideas, problems, questions, plans and procedures are resolved. This usually involves coordination and consultation with other divisions and departments in the organization.

2. Design packages, giving adequate consideration to function, utility, protection, advertising and graphic-art aspects. This involves considerations of size, shape, strength, weight, chemical and physical properties of materials, color and form. Adequate provision must be made for designing with respect

to filling, closing, handling, transporting and consumer use.

3. Write and maintain package specifications.

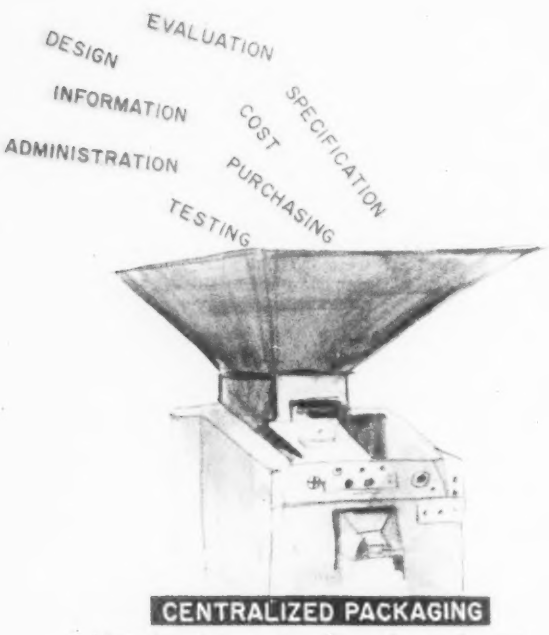
4. Evaluate proposed and existing packages by obtaining information from and consulting with personnel in departments such as customer service, market research, manufacturing, engineering, traffic, legal and cost accounting.

5. Negotiate directly, or through such other departments as purchasing, for the services and products of outside package designers, consultants, market researchers, package manufacturers and vendors, machinery manufacturers.

6. Arrange for appropriate physical and chemical tests, which may involve the company's own testing facilities, outside testing services or test shipments.

7. Keep fully informed of new developments and provide counsel and information to other units in the company on all phases of packaging activity.

8. Perform all packaging activities with adequate regard for costs.



Many functions go into the packaging hopper.

Other department duties

It is not possible, nor sound, to allocate all work having to do with packaging to a central department. Many other functional groups within the company are generally involved in this activity. Where the specialized skill and knowledge is something other than packaging and where packaging is just one of many other problems worked on, it is sound to leave the activity assigned to the special department involved.

Particular involvement in packaging of other staff and service groups may be summarized under the following eight headings:

1. *Traffic and shipping room.* Physically handles and prepares for shipment to the customer. Selects method of transportation and a carrier. Handles claims for damage to product in shipment.

2. *Purchasing.* Develops adequate sources of supply and purchases packaging and related materials as they are required.

3. *Advertising.* Works closely with the packaging department in developing designs which adequately express the advertising image and message of the company. (In actual industry practice, it is very common for the graphic artwork to be performed within the advertising department.)

4. *Manufacturing engineering* (or production engineering). Selects, designs, modifies and specifies machines and equipment used for packaging on the production floor.

5. *Industrial engineering.* Plans packaging operations and methods, work-place set-ups, work-flow analysis. Develops work standards and incentives where appropriate.

6. *Market research.* Evaluates consumer response to proposed and existing package designs.

7. *Quality control.* Inspects incoming and outgoing packages and packaging materials to insure conformance with specifications.

8. *Production control.* Insures adequate quantity and proper flow of packages and packaging materials to meet manufacturing requirements. May be involved in inventory control.

Conclusion

Great variation occurs in the ways that American industrial firms have organized the packaging functions. But as this field matures and as top management gives more concentrated attention to it, very sound organizational arrangements will emerge and grow. Indeed, much progress has been and is being made in this direction.

It has been the goal of this article to analyze the causes for diversity in packaging and to point the way toward a reasonable and logical grouping of duties and responsibilities in this important area of management. It should be emphasized, however, that rigid uniformity is not necessary, nor really desirable. Industrial firms will continue to create and modify their organizations to meet their particular problems and corporate objectives.

First acetal aerosol

New plastic with nylon-like qualities holds promise in cosmetic field because of its flexibility in design and color effects, as shown by Avon's new injection-molded spray bottle

A plastic new to the packaging field makes its entry in a molded, two-color aerosol container for Avon Products, Inc. Indications are that aerosol packagers particularly will be interested in acetal because of its design qualities, ease of molding in intricate shapes, resistance to fracture, inertness to aerosol ingredients and reasonable cost. In the view of many plastics experts, it offers many of the qualities of molded nylon at potentially lower cost.

It was these qualities which led Avon to adopt acetal for its new "Buttons and Bows" spray mist, a teenage cologne fragrance.

The container is tear drop in shape and two toned in pink and rouge red, with a white molded polyethylene cap and valve actuator. The upper half of the body is fluted and the lower part garlanded with three-dimensional bows. The two-color effect is achieved by injection molding in two parts, which are joined together by spin welding. This process, which is unusual in container design, is accomplished by rotating one section against the other, thereby generating enough frictional heat to melt the adjacent surfaces. Pressure is maintained for a second or two, until the weld sets. Tests indicate that a good joint is as strong as the rest of the container wall. Acetal containers fabricated by this method reportedly have withstood internal pressure up to 200 p.s.i.

Pricewise, aerosol containers of acetal resin—depending on shapes, styling, size and quantity—can be produced at costs competitive with aerosol containers of metal and vinyl-protected glass, according to the material supplier, and in small purse sizes may actually be less in price than comparable containers of other materials. Furthermore, it is pointed out that as volume sales and production build up, the price of the material should go down. Already, the price of acetal resin has been reduced from an introductory 95 cents per pound (January, 1959) to the present 80 cents per pound.

Two-color container *is produced by spin welding together two injection-molded sections. The joint is reportedly as strong as the rest of container wall. Technique offers unlimited opportunity for molded-in decoration.*

Acetal (polymerized formaldehyde) is extraordinarily inert to most chemicals and, therefore, is suitable not only for aerosol propellants, but for a wide number of products now packaged in aerosols: hair sprays, colognes, perfumes, antiperspirants, shampoos and cleaners, depending on economics. Related tests in non-pressure, thin-wall containers have shown acetal to have good resistance to hydrocarbon and aromatic base paints, insecticides, room air fresheners, polishes and waxes. Weight losses, however, can occur in some water-based formulations, which could rule out acetal for use in some packaging purposes.

The material may be blow molded as well as injection molded, but much interest will be created especially in the cosmetic field, it is believed, by the two-color effects that can be achieved by injection molding and spin welding.

SUPPLIES AND SERVICES: Injection-molded containers by Bernardin Bottle Cap Co., Evansville, Ind., using Du Pont's "Delrin" acetal resin. Valve and actuator by VCA, Inc., Bridgeport 5, Conn. Cover cap by Mack Molding Co., Wayne, N. J.

How to stop 'design drift'

Coordinated packages for Peter Pan bras bring migrating family back into the fold, provide new merchandising edge with forceful display potentials and effect handling economies

There comes a time in the course of most companies when packaging seems to be drifting off in all directions and it becomes apparent that a strong hand is needed to pull it together.

What a coordinated package-design program can do in such situations to help a manufacturer improve the merchandising picture and effect production economies is illustrated impressively by a redesign program just completed for Peter Pan Foundations, Inc., New York (1,600 employees, $14,000,000 gross sales).

What Peter Pan has done, packagers in any number of consumer goods fields can do:

- To win a competitive edge.
- To cut packaging and handling costs.
- To meet the needs of stock clerks and sales people, as well as customers.

Peter Pan now has a coordinated family of brassiere packages instantly identifiable with a standard logo in the same position on every package. By graphic treatment the packages distinguish clearly the merchandise for department-store selling from the lines designed for the chain stores. The new folding boxes are unmistakably color coded for product styles. End-panel imprinting of size, style,

Basic design identifies *packages for three leading bra styles sold in department stores. Each is distinguished by realistic line drawing of different garments and brilliant colors on the folding boxes: orange and coral for "Hidden Treasure," cerise and purple for "Honeycomb," blue and purple for "Pick Up." Novel feature is embossing of "Hidden Treasure" box to reveal built-in contour of this style. Former packages (illustrated below) offered no design continuity, were therefore ineffective for display arrangements; their illustrative treatment lacked smart, contemporary appeal.*

OLD

color and price are boldly legible in a uniform spot. Back panels give complete description of the garments contained, along with washing instructions. A modular planning of box sizes permits all items to fit one standard-sized shelf box, thereby effecting substantial savings through quantity purchase and handling of only this one size.

Another innovation is the printing of the tear-off inventory information on the small inner flap of the carton, where it is perforated for removal to maintain inventory control without destroying the appearance of the box. Formerly this was printed on the lip of the carton, where it often disfigured the package when torn off.

A novel feature of Peter Pan's "Hidden Treasure" bra package is an embossed area highlighting in third dimension the illustration of a stylized figure and thereby emphasizing the built-in contour of the garment. This is reportedly the first time this technique has been used on a bra package.

Before any packaging recommendations were made, Herbert Mayer, Peter Pan's vice president in charge of sales, commissioned a package designer to make a complete research study of the problem. The designer went first into the plant to examine existing packaging methods, materials, imprinting equipment, folding procedures, stock keeping, storing and shipping. He contacted package suppliers to help develop practical package forms which could be tested empirically in the Peter Pan plant.

He interviewed store owners, merchandising managers, buyers, assistant buyers and sales people in 22 department stores, chain stores and independents in the New York, Washington and Philadelphia areas. The report of this study revealed that:

1. In many stores Peter Pan packages were stocked behind counters and on shelves in such a way that the only visible area was the identification end of the box. Multicolored and varied design elements of end panels made it difficult for a store to arrange a neat Peter Pan display.

2. Sales clerks complained that imprinted information competed with printed captions, making it difficult to select the proper garment quickly. The imprinted identification information was not large enough to be quickly legible.

3. Improperly engineered boxes resulted in garments being crushed and caused unnecessary packaging cost because boxes were not planned for modular arrangement in shelf boxes.

4. Lack of visual tie-in between individual bra packages prevented stores from setting up displays of the complete Peter Pan line.

5. Some packages lacked pleasing graphic appeal.

6. Customers wanted more information about product features on the box. Many clerks thought that having washing instructions on the box would increase customer satisfaction and reduce returns.

The outcome is a family of new packages, all identified by a standardized Peter Pan logo printed vertically at the upper left of all packages. One uniform illustration of a young girl is used on all the department-store packages, varied only by the realistic drawing of each garment style. Brilliant box colors distinguish the three styles: orange and coral for "Hidden Treasure," cerise and purple for "Honeycomb," blue and [*Continued on page 184*]

SUPPLIES AND SERVICES: Design program by Harry Lapow Associates, 250 W. 57 St., New York 19. Folding boxes by Keystone Folding Box, Newark 4, N. J. Offset printing by Eastern Colortype, Clifton, N. J.

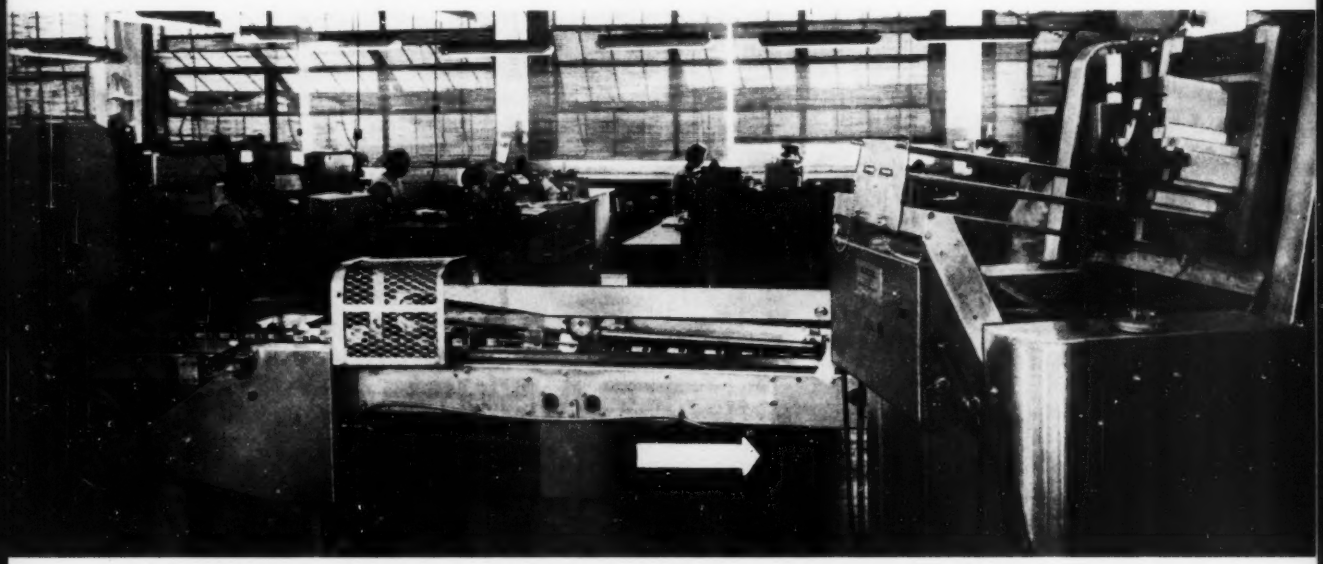
Chain-store line *carries printed frame border, in complete contrast to department-store packages. Back panels on all packages carry complete information about the products, conveniently grouped for rapid reading.*

Skeletal data *in large type on end panels are designed for quick recognition by sales people and appear in same position on each package.*

Perforated inventory tab *on new package can be torn off without damaging carton. Lower portion of tab remains on package for closure*

Cartoning for economy

Dropping the hand-packaged round metal box for inked machine ribbons in favor of a modern locking carton, Burroughs mechanizes its packaging for a 157% boost in output per manhour



Straight-line cartoning *of Burroughs Corp.'s spooled typewriter and business-machine ribbons employs a special vertical carton set-up machine (far left) to erect locking packages and deposit them on conveyor, moving to the right. Ribbons are cellophane wrapped (out of picture, at left) and are loaded into cartons from parallel conveyor (at left of screened guards). After cartons are closed and coded, they are hand loaded into master cartons set up by second machine (right).*

Economy and speed in production have been achieved by the Burroughs Corp. with a conversion from round, hand-packed metal cans to striking new rectangular, locking-type cartons for four brands of typewriter and business-machine ribbons.

In a one-year development program that has changed its packaging line from a machine-paced hand operation to efficient mechanical action, Burroughs' Mittag Div., Park Ridge, N.J. (400 employees), raised output 83% and reduced personnel for a net gain of 157% in output per manhour. Of key importance is the installation of special but simple in-line equipment developed to top load the awkward, cellophane-wrapped spools of ribbon and to automate the imprinting of detailed product data on each carton. Now 90% mechanized, the line needs only the automatic loading of master cartons, now under development, to complete the transition from hand to fully automatic operation.

No less interesting are Burroughs' new product cartons and master cartons. Specially designed for mechanical set-up and loading, they have given this utilitarian but highly competitive product new merchandising appeal at half the cost of the traditional flat metal boxes, according to Burroughs.

Mechanical action

The first packaging step—wrapping of the spools—is a traditional mechanical job responsible for the difficulty in handling this product. Swathed in

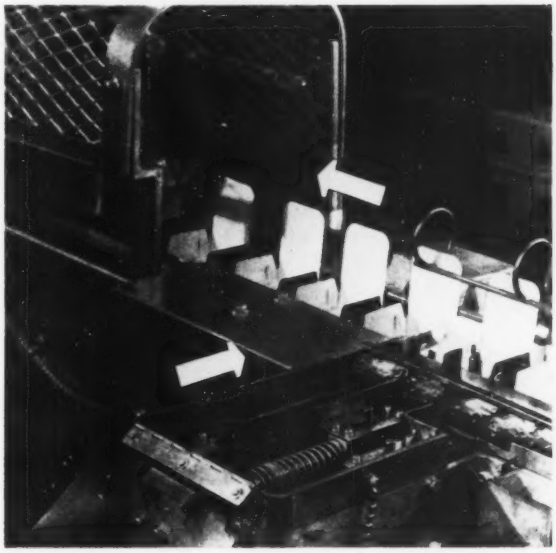
polymer-coated cellophane to extend the shelf life of the ribbons, the spools are heat sealed in their wrappers with an underfold technique on a conventional rotary machine. This customarily bunched, random heat seal is an efficient wrap. But it varies in thickness, making it extremely difficult to handle the spools on conventional end-loading cartoning equipment. Such a machine was tried at first and discarded, though some special-brand distributor products are still being packaged by hand in reverse-tuck, end-loading cartons.

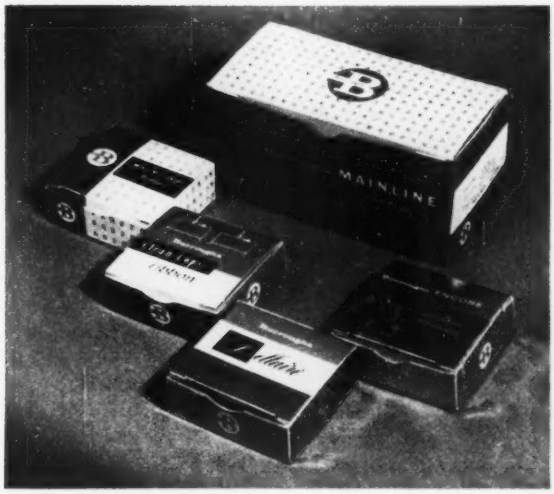
The solution to the loading problem for Burroughs' own brands of ribbons was found in a special top-loading locking carton that could be filled by an overheard ram, a combination of package and machine that avoids tight loading tolerances. In this operation, the wrapped ribbons travel by an elevated conveyor, which parallels a flighted carrier bringing cartons from an automatic set-up machine. This latter unit (of a type previously used by another packager for special pencil cartons*) is rated at 125 cartons per minute, but is now being run in at 84 cartons per minute, with eventual production slated for 100 per minute.

With the open top of the carton (on the off side of the conveyor) serving as a back stop, the ribbons are slapped into the cartons by a stationary cam-actuated ram. A stop rail on the ram allows only

*See "Cost Cutting On a Pencil Line," MODERN PACKAGING, July, 1959, p. 90.

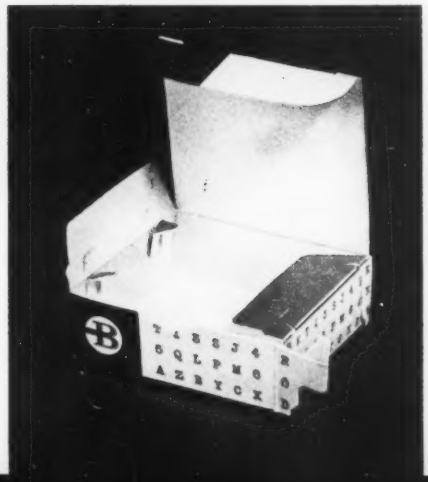
Loading ram *for ribbons is activated by simple cams and is equipped with a spring-loaded stop to reduce line pressure on loader during operation. Arrows indicate successive movements of wrapped spools and cartons. If carton is missing, ribbon spool overshoots line and is caught in a special hopper.*





Family of cartons *for Burroughs' four brands includes clay-coated cartons (left) for the two low-priced lines and sparkling foil-laminated containers (right) for higher-priced ribbons.*

Carton construction *features special zig-zag die-cut locking tabs (as at right) having a scored top portion that bends with the dust flaps to fasten the container securely. Die-cut score in tuck flap locks behind the dust flaps to hold the package closed.*



one spool at a time in loading position and eliminates the need for timing the individual spools. A chute on the far side of the carton conveyor serves as a simple no-carton-no-product device by catching any overshooting spools when a carton is missing, eliminating starting and stopping of the conveyors.

The cartons are closed by a rotary tucker and conventional fixed plows. Product data, which can run to five lines of type for special ribbons, are added by a rubber-mat imprinter installed on one side of the package conveyor. Mounted on aluminum cylinders, the rubber mats can be changed in a minute for different products. An air jet, located beyond the imprinter, blows away empty cartons.

A second and similar carton set-up machine forms the master cartons, which hold six product containers each. An imprinter mounted on either right- or left-handed brackets of its forming mandrel adds to the master carton the same product data that appear on the individual containers. Double imprinters may later be installed for a proposed breakaway carton that will hold 10 product containers and can be divided in half.

Formed and imprinted cartons are conveyed from the master carton-forming machine on a 6-ft. flat-belt conveyor. The last 4 ft. of this conveyor are kept filled with formed cartons by means of a controlled carton-supply system, which consists of photo-electric eyes mounted on the conveyor and connected to the forming machine. These eyes signal the forming machine when to form cartons.

At present, individual cartons are loaded into the master packages by hand and master cartons are fed in pairs to an automatic overwrapper for bundling. This operation will soon be put under complete automatic control with collating, stacking and cartoning equipment now under development.

The new locking cartons represent a major change from the previous container in both surface appearance and, of course, construction. Side flaps on the carton, which are scored to form the dust flaps too, are deeply die cut for easy entrance of the zig-zag-cut locking tabs during mechanical assembly. When the dust flaps are broken, scored ears on the tabs are also bent, firmly locking them in place. Projections on the front edge of the dust flaps engage die-cut portions of the tuck flap after the carton is closed, to secure the package.

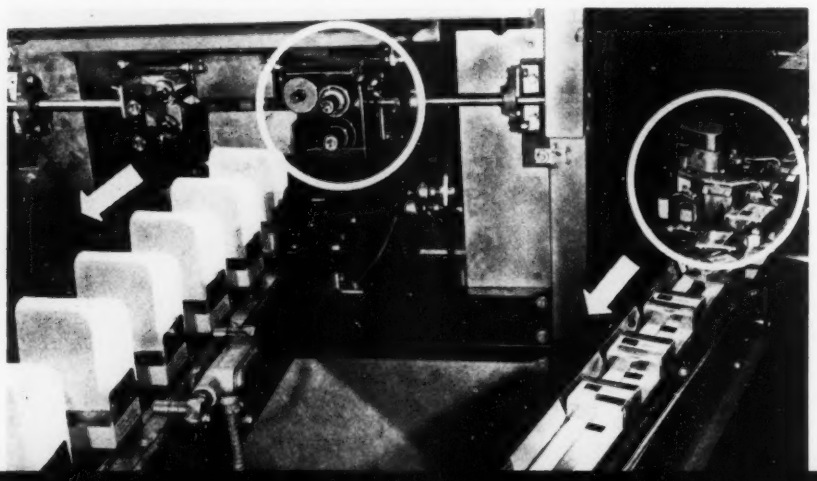
Modern surface design has been employed to step up shelf recognition of the Burroughs products and to carry out brand merchandising themes. Two low-priced ribbons, Mainline and Clean Copy, are in clay-coated cartons of 20-point bleached sulfate board, letterpress printed and with a vinyl overcoat. The Mainline container is printed in three colors in a bar and typographical design, while the Clean Copy carton is two-color printed in a block pattern.

All of the design stops are pulled out for the premium Encore and Bellaire lines of ribbons, which are enclosed in 20-point bleached board cartons laminated with 0.00035-in. foil and gravure printed in black, white and gold and in blue, black, white and gold, respectively. A special "B" logo on the tops or sides of the cartons maintains family identity on all of the Burroughs brands.

This modernized line illustrates the versatility that can be achieved with special folding-carton designs as well as the efficiency and speed obtainable with simple and well-engineered mechanical action.

SUPPLIES AND SERVICES: Carton set-up and loading machinery and imprinter by Kliklok Corp., 405 Lexington Ave., New York 17. Cartons by Continental Can's Boxboard & Folding Carton Div., 530 Fifth Ave., New York 36.

Code device *(circle, right) for individual cartons utilizes easily changed rubber mats mounted on aluminum cylinders. Similar mechanism (circle, center) for master cartons can be mounted on either side of larger carton-erecting machine (note empty spindles at left). Arrows indicate the flow of individual and master cartons toward hand-packing operations.*



Metering re-use cap

Plastic device, used as closure for giant-sized bottles of liquid Joy, is actually a premium that dispenses measured amounts and can be used on all sizes of P&G's detergent

Finger pressure *triggers one-shot dispenser on polyethylene bottle of Procter & Gamble's Joy liquid detergent. Device is free with giant size, can be re-used on any size Joy bottle.*

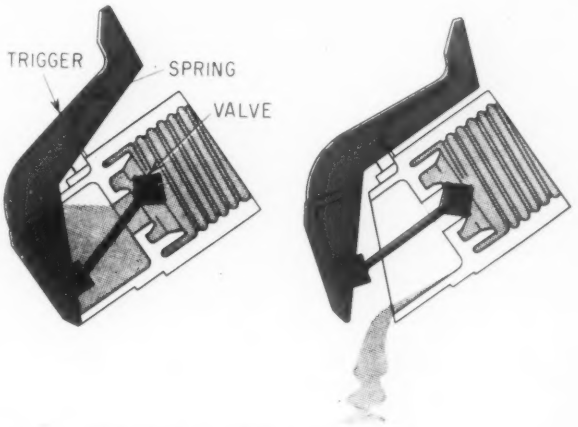
With a packaging improvement that costs consumers nothing more than the flick of a finger, Procter & Gamble is bidding for increased sales of its giant-sized Joy by adding a metering dispenser that can be re-used indefinitely on all sizes of this polyethylene-bottled liquid detergent. Supplied in a special promotion as part of the giant-sized Joy package, this finger-operated plastic device measures just enough Joy for one dishpanful of suds.

This is an unusual concept—the use of what would ordinarily be a premium accessory as a functional part of the package.

The dispenser consists of three injection-molded parts—body, cover and valve—of medium-impact polystyrene, plus a tiny spring of stainless steel. To prevent leakage during distribution, a small injection-molded polyethylene plug is placed in the nozzle of the bottle after filling and before the dispenser is applied. The dispenser replaces the regular cap during this special packaging run. In use, the dispenser is unscrewed to remove the protective plug, then is again screwed onto the bottle.

The cover has a molded-in trigger jutting out at an angle from the body of the dispenser. Up-ending of the bottle allows detergent to flow freely through the valve into the dispenser cavity. Slight finger pressure on the trigger actuates the spring, creating an opening between dispenser body and cover, and the liquid flows out. Simultaneously, the inner valve is closed and further flow of detergent is stopped until finger pressure is removed and the action is repeated. This cycle minimizes product waste.

The dispenser's white translucent body has a series of vertical ridges encircling its lower portion for added rigidity and strength. Above this, another series of vertical ridges allows the dispenser to be tightened on the bottle.



Dispenser action *starts (left) with trigger in relaxed position and bottle tilted to fill cavity in cap through open valve. Finger pressure on trigger (right) closes valve, permits metered-quantity pouring.*

A circular lip about ¼-in. deep and of the same diameter as the body is molded in on the inside to prevent leakage. A smaller lip encircling the valve area establishes a tight valve seal when pressure is applied on the trigger. Top edge of the dispenser body is slanted to provide dripless pouring.

The dispenser's red cover is molded with a rough surface on top to facilitate price marking.

For convenient, one-hand use, dispenser and bottle threads are indexed so that the trigger is always located at the side of the oval-shaped bottle. Dispensers are supplied to P&G fully assembled.

SUPPLIES AND SERVICES: Dispenser molded by Formold Plastics, Blue Island, Ill., using Bakelite's medium-impact polystyrene for the body and Dow's or Koppers' medium-impact polystyrene for cover and valve. Spring by Accurate Spring Mfg., 3811 W. Lake St., Chicago 24.

Family look, 'how-to' drawings upgrade a medicine line

A sweeping redesign program undertaken by Pharmacraft Laboratories provides all packages in the company's line of proprietary medicinal products with:

- Instantly recognizable family identity.
- A clean, contemporary appearance that is in contrast with a former "patent-medicine" look.
- A simple dual illustration on facing carton panels that gives consumers a quick visual concept of how the product is administered and the purpose for which it is intended.

The illustration on the carton for children's-formula Coldene liquid cold medicine, for example, is a two-panel drawing of a spoon and a sleeping child. Similar appropriate illustrations are used for other products. The design for bottle labels is the same as that on the carton, except that a solid two-color bar replaces the use illustration. *Design by Visual Marketing, 375 Park Ave., New York. Cartons by F. N. Burt Co., P. O. Box 995, Buffalo 5, and Yates Carton, 1313 W. Harrison St., Chicago 7. Bottles by Carr-Lowrey, 2201 Kloman St., Baltimore 30. Caps by Standard Cap & Molding, 307 S. Eaton St., Baltimore. Paper labels by Max Sterns Sons, 301 S. Wells St., Chicago.*

COLDENE
Liquid Cold Medicine
CHILDRENS FORMULA
COLDENE
Liquid Cold Medicine
Prompt relief of sore throat, runny nose, sneezing, coughing, sinus congestion, headache, muscular aches and mild fever of colds. Pleasant tasting, cherry flavored.
CHILDRENS FORMULA

IDEAS

Beribboned pre-wrap makes a gift item of vitamins

Possibilities for dressing up many more utilitarian products as acceptable gifts are suggested by the colorful holiday pre-wraps which are offered by The DePree Co., Holland, Mich., to help druggists promote proprietary vitamins during the Christmas season.

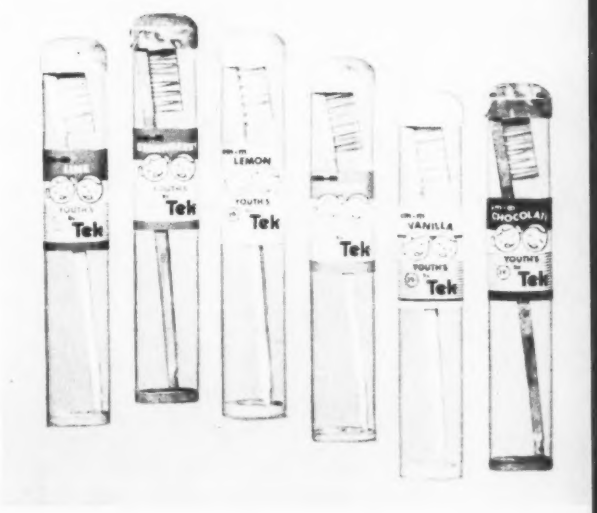
Bidding for a share of the 1960 Christmas-gift market, this packager of pharmaceuticals is offering two of its best-selling bottled vitamin products—WheataVIMS and Geriatric Capsules—in colorful, sleeve-type carton pre-wraps topped off with a gay fabric bow. The wraps bear no brand or product identity.

To help retailers merchandise the gift-wrapped vitamins, DePree offers drug-store accounts a printed paperboard counter merchandiser that simulates a Christmas tree. Mounted on the die-cut unit are several pre-wrapped packages. A supply of the product, in non-wrapped cartons, is stacked in front of the display. Dealers also are furnished with additional pre-wraps, which reportedly can be slipped over the standard carton in a few seconds. *Sleeve pre-wraps and bows by Chicago Printed String, 2300 Logan Blvd., Chicago. Display by Steketee-Van Huis, Holland, Mich.*

Tek sells to kids with scented toothbrush and tube cap

The undeniable appeal of pleasing fragrance, integrated with container and product colors, is being used by the Tek Hughes Div. of Johnson & Johnson to stimulate sales of children's toothbrushes. Similar to a recent application by a manufacturer of nylon hosiery (see "Fragrance Comes to Packaging," MODERN PACKAGING, May, 1960, p. 100), the program suggests a way in which packagers sometimes can go beyond the conventional sensory appeals of sight and touch to create new interest among consumers.

Tek's new line includes six different-color toothbrushes, each impregnated with an aroma suggestive of the color: lime, strawberry, lemon, orange, vanilla and chocolate. They are individually packaged in transparent acetate tubes whose molded-acetate closures are similarly colored and scent impregnated by the company. Color-keyed paper labels carry out the "flavor" motif. For example, the label for the chocolate-scented toothbrush carries the copy, "Um-m, chocolate," over a cartoon illustration of two youngsters licking their lips. *Label design and color selection by Mezey Macowski, Montclair, N.J. Labels by Tompkins' Label Service, Frankford & Allegheny Aves., Philadelphia 34.*



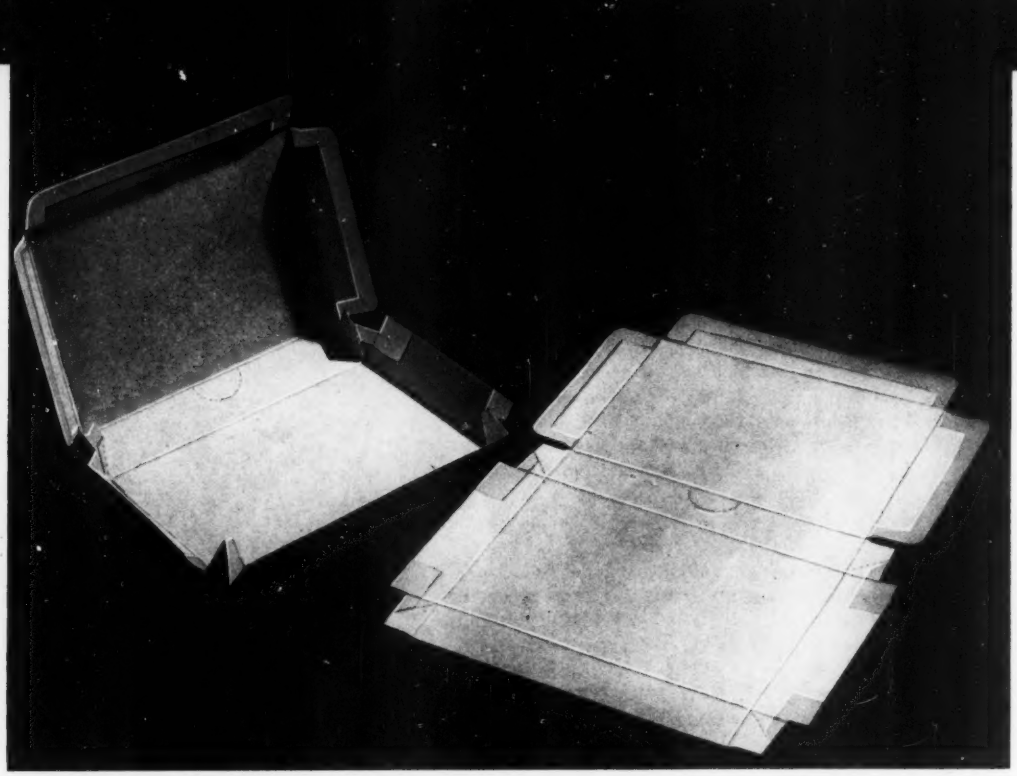
IN ACTION

Now it's mouthwash in a refillable glass decanter

The "decanter concept" in packaging, once the almost exclusive bailiwick of distillers, is branching out into other fields to give new self-selection appeal and long-term brand-remembrance value to such popular-priced supermarket products as vinegar and instant coffee. Another example of this trend is the adoption by Vick Chemical Co. of a 17-oz. "Sparkle Decanter" for Lavoris liquid mouthwash.

The square-sided clear-glass container is shorter and wider than the conventional round bottle also used for the product. These characteristics, Vick says, lessen the chances of the container being upset and enable it to fit easily on medicine-cabinet shelves. A small, square foil-paper label, printed in gold, black and white, adds to the decanter look and permits maximum product visibility. Said to be comparable in cost to the standard bottle, the new container is topped off with a semi-conical white urea closure.

To encourage consumers to keep the bottle as a permanent container for Lavoris mouthwash, point-of-purchase displays and advertising emphasize that the decanter is refillable. *Glass bottle and urea cap by Owens-Illinois, Toledo 1. Foil-paper label by The Foxon Co., Providence 1, R.I.*



New web-cornered carton *is sealed with a hot-melt resin glue applied as indicated here by the color areas. The adhesive is applied to the blank under the cold-wax coating during manufacture. Five new Dulany products are now marketed in this single-wall carton. All are lithographed in five colors.*

Frozen-food

Dulany's introduction in this country of a wrapperless, waxed British carton that is pre-printed with a hot-melt adhesive sets the stage for expected improvement with a polyethylene coating

single wall

In the continuing search for a single-wall protective carton, an interesting possibility is a cold-waxed paperboard package that not only eliminates a separate wrapper or liner, but carries its own patterned coating of hot-melt adhesive, pre-applied to the lithographed carton blank.

Developed in England, this container* has won its first U.S. application for a new specialty line of frozen dough-wrapped meats and fruits in roll form packed by Dulany Foods, Inc., Fruitland, Md., at their Exmore, Va., plant. With increasing demand from the frozen-foods field for more functional packaging performance at lower cost, this new carton provides these significant features:

1. In large volume, it is said to cost about 7% less than conventional carton-plus-overwrap packages and it reduces capital expenditure for equipment by eliminating the wrapping machine.

2. It simplifies gluing operations in the packaging plant by the controlled pre-application of adhesive at the required points on the blank.

3. It incorporates a web-cornered construction that prevents leakage when packaging with high-moisture-content products and also improves the barrier properties of the package.

Dulanys' introduction of this carton has raised again several objections and questions previously leveled at a single-wall carton—limitations in barrier properties, true over-all costs, slower packaging speed and cost of storing pre-printed cartons. Dulany admits there are drawbacks to the new container, but corrective measures are being taken.

Disadvantages

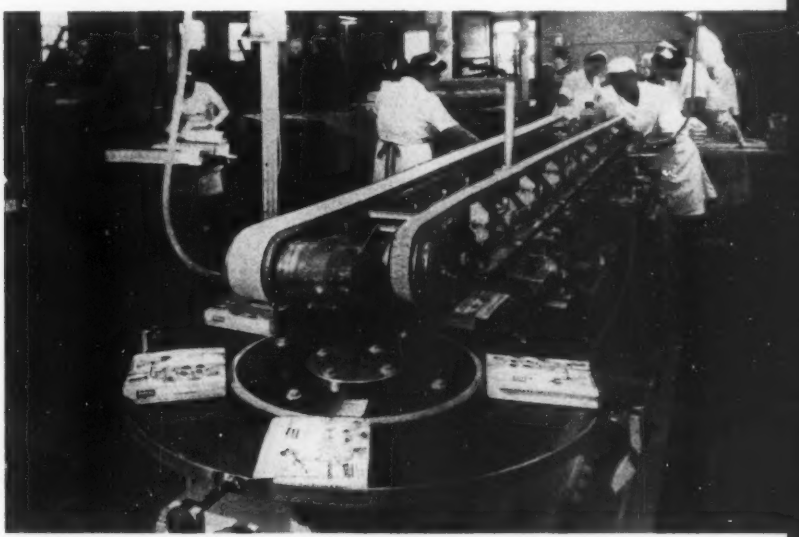
Here are disadvantages of the carton at present:

1. Even with a two-sided wax coating, this carton does not have the barrier properties needed for freezer storage of up to a year.

2. The outside waxed surface tends to scuff.

3. A reduction in board weight from the present 15-point solid bleached kraft to 12-point or possibly 10-point boards—made possible by the more rigid web-flap construction—has not been utilized in Dulany's initial cartons. Such a saving in weight

*See "Approaching the Single Wall," Modern Packaging, March, 1960, p. 143.



Carton closer *is a 10-ft. belt-driven unit built in two sections. Cartons travel backward through first part (left), where side flaps on the lids are sealed, then swing around table in foreground and enter the return section, where remaining flap is secured. Note carton-forming machine at left rear of packaging area.*

would cut the cost of the carton another 8 to 10%.

4. The slow-speed equipment in use at Dulany, while adequate for this company's present production, is not suitable for large-volume applications.

But action is already being taken by the American supplier of the single-wall cartons and packaging machines in the hope of eliminating all these drawbacks within the next few months.

Potential advantages

Barrier properties. One of the most exciting possibilities with this carton is its adaptability to extrusion coating with polyethylene. Test cartons coated with 1 mil of this plastic have been under laboratory investigation for more than six months. And the results, to date, indicate that this improved carton will have barrier properties superior to those of most conventional carton-plus-overwrap packages. Though no price has yet been set on this proposed container, it will necessarily be higher than conventional overwrapped cartons.

However, the savings in wraps and machinery will offset this higher cost to some extent. And the plastic-coated carton, in either plain or printed styles, should eliminate the widespread practice of wrapping cartons in plain wrappers which later must be rewrapped under private labels. A single printed wrapper for a plain plastic-coated carton is thought to be more economical, in these instances, than present double wrappers.

Scuffing. By substituting a new lacquer coating for the wax now used on the external surface, it is confidently expected that scuffing of the printed carton surface will soon be a thing of the past.

Board weight. Twelve-point board will be standard on all cartons made from now on, with even 10-point structures possible for lightweight products that do not bulge the top of the carton.

Speed. Machinery suitable for high-volume operations in this country will be no problem. Just announced is a forming machine designed to set up the carton, which has an output of 160 cartons per minute. A closing and sealing unit rated at 230 cartons per minute is also ready for use.

Pioneering use

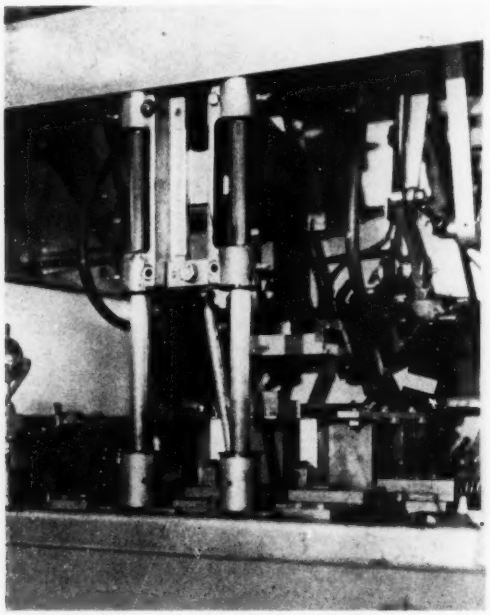
The speed with which these advances have been made is in no small part due to the pioneering use of this package at the Dulany plant, where the bugs in both the carton and the machinery have been worked out during the past few months in order to create an efficient packaging operation for low-volume, fast-turnover, specialty items.

Dulany is using the single-wall container for five new products: Pigs-in-Blankets (a pork roll), Tuna Rolls, Ham & Cheese Rolls, Apple Rolls and Cherry Rolls. The cartons for these frozen delicacies measure 5¾ by 4 by 7⅛ in. and are lithographed in five colors, with halftones of the baked product prominent in the foreground and symbols of each product's origin in the background. Product and company identification are sharply defined in a large oval. Instructions for preparing the foods are printed on the backs of the cartons.

To prevent these instructions from being destroyed when the package is opened, the consumer is encouraged to rip open the front face of the carton by use of a perforated tab.

The packaging operation at Dulany comprises two pieces of equipment: (1) a vertical forming machine that sets up the carton and seals side flaps on the bottom of the carton and (2) a horizontal sealer that seals side and back flaps on the top of the carton after it is filled and closed. Both machines are rated at 50 cartons per minute.

Mechanical motion in the set-up unit resembles the action of standard [*Continued on page 187*]



Carton former *utilizes vacuum arm (arrow) to pull carton blanks from magazine. A vertical plunger or die (center) drives blank down through heated forming section (lower center) to break carton on scored lines and seal base of container. Speed of production is presently 50 per minute.*

SUPPLIES AND SERVICES: "Diotite" carton by Continental Can's Boxboard & Folding Carton Div., 530 Fifth Ave., New York 36. Set-up and sealing machines made by Metal Box Co., Ltd., London, and supplied by Continental Can.

Plastics-packaging in Australia

National convention and other plastics-packaging events draw record number of executives; John W. Derham Medal awarded to C. A. Breskin

Under the apt theme, "Coming of Age," the recent Third Australian Plastics Convention and Exhibition attracted a record number of executives of both the plastics and packaging industries from Australian states and overseas to the Chevron-Hilton Hotel in Sydney. Sponsor of the four-day event was the Plastics Institute of Australia.

PIA's guest of honor during and after the show was Charles A. Breskin, Chairman of the Board of Breskin Publications, publisher of MODERN PACKAGING and *Modern Plastics* magazines. Following official opening of the convention on Sept. 19, Mr. Breskin delivered the John W. Derham Memorial Lecture, established in honor of one of Australia's outstanding plastics pioneers.

Choosing as his subject, "World Wide Growth Trends in Plastics Applications," Mr. Breskin told an audience of more than 1,000 that "the plastics industries, more than any other, are becoming global in trade, in finance and in the exchange of technology. In the past 10 years, the world-wide volume of plastics production has almost quadrupled. In the past 20 years, output has increased more than twentyfold." Commenting on the prospects for continued great growth in the application of plastics to packaging and products, he noted that "the most conservative prognosticators expect demands for plastics to triple in the next 10 years."

For his own contributions, Mr. Breskin was presented with the first biennial John W. Derham Lecture gold medal. The award signifies outstanding services to the world of plastics.

A surprise honor was the presentation to Mr. Breskin of a life membership in PIA. Conferred by Charles Rothhauser, president of the organization, it marked only the seventh time this award has been made in PIA's 16-year history.

At the conclusion of the conference, Mr. Breskin traveled to the University of Melbourne where, on Oct. 3, he was guest speaker at a joint meeting of the National Packaging Assn. of Australia, the Assn. of National Advertisers and the Assn. of Advertising Agencies. His topic was "Packaging Developments, U.S.A." Next day he was guest speaker at a meeting of PIA in Melbourne. On Oct. 6 he was guest of honor at the National Plastics Week Dinner, at which he presented the F. H. Edwards Plastics Industry Laurels (established to encourage Australian molders and fabricators to strive for continually improved product quality).

Mr. Breskin also addressed sections of PIA in Adelaide and Brisbane. In addition, he gave numerous television, radio and newspaper interviews on plastics and packaging while in Australia.

Commemorating *one of Australia's outstanding plastics pioneers, the John W. Derham Lecture gold medal (front and back views above) was presented to Mr. Breskin at the Third Australian Plastics Convention & Exhibition in Sydney.*

CHARLES A. BRESKIN

Multi-service

Catsup, olives and pickles—enough for a whole family's meal—are among the liquid-containing foods put up by a Danish chain in economical and sales-making film pouches

A noteworthy extension of the portion-packaging principle—incorporating elements of economy and convenience that may well foreshadow acceptance in the United States—has taken firm hold in Denmark. A MODERN PACKAGING editor, visiting one of the up-to-date supermarkets in that little Scandinavian kingdom recently, turned up "family-size" film pouches containing a surprising variety of liquid and semi-liquid food products, ranging from 8- and 11-oz. quantities of mayonnaise and catsup to olives and pickles in their own juices.

While single-service film packs of condiments have appeared on a small scale in this country, family-portion film packaging here has been limited largely to "dry," easily storable foods. Considering the economies inherent in larger-size packs, this apparently successful Danish application should be worthy of the attention of American marketers of many liquid-containing products.

An interesting aspect of the European portion-packaging advance is that the food product can be transferred directly from its low-cost film pouch to a more durable re-use or storage container. If the pouch is used at the table, any unconsumed portion can be saved for the future in the same way. Labels on some of the film pouches suggest the use of polyethylene squeeze dispensers, which can be purchased in almost any variety store.

A company merchandising family-portion packs to the utmost is Irma, Ltd., largest chain of self-service supermarkets in Denmark. The firm's decision to go to portion packaging was preceded by a sweeping adoption of transparent-film pouches, in a bid to lower costs by standardizing (as much as possible) packaging materials and methods for the broad variety of foods it produces.

Danish consumers are currently offered two principal types of film packages, both in unprinted pouch form. One, containing solid, liquid or semi-liquid foods, is a standard three-seal film pouch, but with a colorful paper header that doubles in top sealing and labeling the package. It most nearly resembles American film pouches with headers used for impulse marketing of soft or hard goods, in-

Paper header *on standard three-seal film pouch offers economy of unprinted film with flexibility of labeling that can be revised for short runs, seasonal products, price or surface-design changes.*

Back-seal label *is simply a colorfully printed paper tape automatically inserted when back seam is heat sealed. This device provides labeling economy and flexibility equal to that of the paper header. Both packages are suitable for solid, liquid or semi-liquid products, particularly for foods.*

portion packs

Portion pack *of catsup in cellophane-polyethylene pouch gives Danish consumers the convenience of immediate use at the table or refill of master containers already in use in the home.*

cluding candy and hardware items, generally with a punched hole for pegboard display.

The other prominent Danish film package is also a three-seal pouch run on a standard continuous machine for forming, filling and sealing, but ingeniously labeled along the back seam by means of a colorfully printed strip of paper applied at the time of sealing with the use of a Danish-developed attachment to the standard continuous pouch packer.

Irma, Ltd., has four principal reasons for using unprinted film, generally a cellophane-polyethylene lamination: (1) it believes its inexpensive paper labeling, either by means of a header or back-seal printed strip, is more economical than buying printed films; (2) it can schedule profitable short runs of a variety of products dictated by such factors as seasonal changes; (3) it can price mark its packages, yet readily change the price on new labels whenever necessary, and (4) it can economically change the "surface design" of its packages by revamping just the separate label.

Although the company will not disclose specific cost or production details, including its protection against leakers, it is known that the back-seal label is fed from a hopper and automatically placed between the back seam and the back-sealing bar just as the bar moves in to seal the longitudinal seam. The required attachment to the standard pouch-packaging equipment is said to be available from a number of different machinery suppliers.

The Irma chain and its packaging typify both a problem and a solution in self-service merchandising in Denmark. Except for consumer cooperatives, Danish law does not permit the establishment by any chain of more than one retail store in any municipality unless the chain produces goods of the kind it sells. This is designed to protect the small retailers who operate most of the country's 34,000 food stores. However, as a growing number of these independent retailers convert to self service to maintain sales, film packaging of this type reportedly has caught on in Denmark and the rest of Scandinavia relatively more than elsewhere.

Moreover, since agricultural products make up more than half of all Danish exports—chiefly to Great Britain, West Germany, Norway and Sweden, which are already deep in self-service merchandising—Denmark has both domestic and foreign demand for the type of impulse-sales packaging represented by film containers.

More than 140 of Irma, Ltd.'s 170 outlets in and around Copenhagen are self-service stores selling about 475 items, exclusive of produce and meat. The chain manufactures and packages about 60% of the goods itself, almost all under private label.

Other Irma products appearing in the liquid-tight pouch packs include mustard and various other types of seasoning sauces, remoulade, capers, mackerel with capers, and mackerel.

SUPPLIES AND SERVICES: Basic Hamac-Transwrap continuous pouch packer by Hamac-Hansella Maschinen GmbH, Viersen/Rhineland, West Germany.

The lock-tab tray

The idea of a folding-board construction that needed no glue for rigid set-up started with trays and machines to form them and spread rapidly into full cartons. Now it accounts for billions of packages per year

On the West Coast during the mid '40s an economical and fast method of handling paperboard trays in the packaging of figs and dried fruits began attracting the attention of packagers across the country. The trays came from simple, lightweight, patented, die-cut blanks that could be formed and positively closed by lock tabs entirely without glue on a simple machine in the user's own plant. Overwrapped with transparent film, they offered a low-cost, see-through package that rapidly became an important new basic form for the packaging of produce, fruits, baked goods and confectionery. Today, the principle has been extended to full, lidded folding cartons of a dozen different constructions, used for a multitude of products and particularly important in the frozen-foods field.

This lock-tab construction that started with a simple tray rightfully belongs among present-day *Great Packaging Discoveries* for its outstanding contribution to the simplification of mechanical cartoning in literally hundreds of applications.

By doing away with adhesive problems and eliminating the time cycle for applying and setting adhesives, it has provided low-cost and high-speed packaging to the producers of chewing gum, candies, drugs, hardware, automotive parts, stationery, sewing supplies and many others, running into billions of paperboard packages annually.

The basic idea of a glueless carton, put together with slots and tabs, goes back as far as most old timers can remember. But it did not progress much beyond margarine, butter and lard cartons until the improved lock tab came along. And the concept of a rigid-tray construction, with tabs that really locked securely, together with patented high-speed machinery for setting up the carton, really launched a new packaging era.

Acceptance of the modern concept of lock-tab construction undoubtedly stemmed from the West Coast success of the first Klik-lok machine and tray developed and patented by Bemiss-Jason Co. of San Francisco. Bemiss-Jason interests were eventually bought out by the Kliklok Corp., which was set up to build the machinery and to license the carton designs.

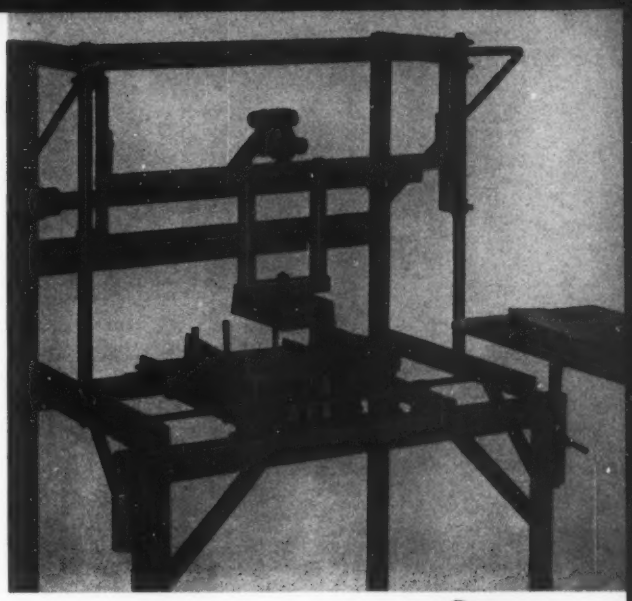
And, although there are a number of capable competitors in the field today, much credit for the initial success unquestionably goes to Kliklok Corp. and its president, Walton Lynch (then also president of National Folding Box Corp., New Haven), who envisioned the possibilities and aggressively promoted the idea to an ever-widening list of users; and to A. M. Austin, chairman of the board, who handled the legal end of the project.

The original development came along at an opportune time. The big boom in supermarkets and self-service selling in the '40s was demanding continually faster production of consumer-unit packages. In every field packagers were looking for less-costly and higher-speed cartoning. A fast, low-cost method to set up and close trays and cartons without glue provided one of the answers. With specially cut, flat, lock-tab blanks, the user could have on his premises an easy-to-operate, labor-saving machine that would form and lock cartons, ready for use, at speeds of 60 to 90 per minute.

Kliklok grew fast because of its marketing method. The company interested folding-box makers (starting with National Folding Box) in producing and selling blanks which had to be handled on machines (leased by the carton companies) produced by Kliklok.

GREAT PACKAGING DISCOVERIES—21

THIS MONTH'S COVER



The first application of a Kliklok glueless lock-tab tray by an Eastern firm reported in MODERN PACKAGING (Aug., 1947, p. 114) was for Peter Paul's shelf packs of Activated Charcoal Gum, a type of package that has come into almost universal use for chewing gum, candy bars and other confections. Efficiency of the system for baked goods, which has since become one of the largest areas of application, was impressively demonstrated as early as 1950 by reports of the experience of Mrs. Smith's Pie Co., Pottstown, Pa., where a lock-tab window carton achieved an output of 6,980 pies per hour at a 50% saving in labor costs (MODERN PACKAGING, Sept., 1950, p. 114).

The lock-tab carton made an outstanding contribution to the development of the frozen-food industry, which needed rapid, automatic cartoning. Today, several firms supply lock-tab cartons for frozen food and special equipment for forming and closing them. The overwrapped lock-tab carton continues to be a most important factor in frozen-food packaging.

More and more, the trend in glueless cartoning systems seems to be toward custom-designed, high-speed operations, tailored to specific purposes. An outstanding recent installation is a specially designed carton and Kliklok equipment to package Talon zippers, running into hundreds of millions of packages a year at speeds of 90 per minute. Another is the single, fold-over blank designed for Dixon Ticonderoga pencils, combining lock-tab construction with a pre-glued flap, formed, filled and closed on custom-designed machinery.

More than a dozen different types of lock tabs are available today, their selection determined by the type of product, weight of board and decorative design. Even self-locking corrugated boxes may be set up on cartoning equipment designed for the purpose. There are lock-tab cartons with film liners and with flexible corrugated liners, side-style locks, end-style locks and many others. One supplier even offers a glueless carton that is said to be liquid tight.

Early prototype model *of the Kliklok machines (photo at upper right) that form and lock the tabs of glueless cartons automatically today at speeds of 60 to 90 per minute. Starting with a simple tray, the lock-tab construction has brought low-cost, high-speed packaging for candy, baked goods, frozen foods, drugs, hardware and dozens of other products.*

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PACKAGING PAGEANT

1 Dispenser boxes that release aluminum-foil sheets in "pop-up" fashion like facial tissues introduce Aluminum Co. of America "Alcoa Wrappers," new 10-by-12-in. "sandwich-sized" sheets of foil. When the die-cut center section of the box is removed, interfolded sheets slip out individually with a gentle tug, in a one-hand operation. Box holds 75 sheets. Carton, Container Corp. of America, Chicago.

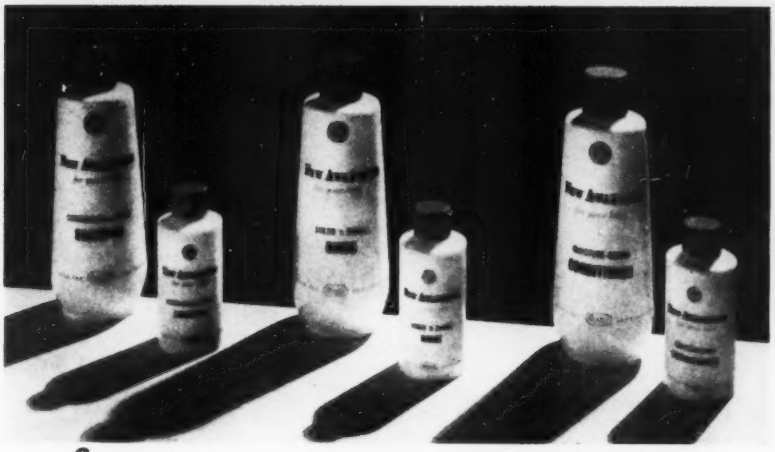
2 Large cup-type containers provide an efficient, yet inexpensive counter merchandiser for Beech-Nut Life Savers' packaged candy (Life Savers) and chewing gum (Beechies). Used as jumble bins, they offer good product identification and enable attention-getting display that aims to increase impulse sales. Displays, Lily-Tulip Cup, New York.

3 A European solution to the problem of a tamper-proof seal on a one-piece aluminum aerosol container is seen on a package for Timor, a new spray insecticide sold in Italy. The seal, placed over the actuator, must be broken before the aerosol will function. Valves and contract packaging, Solfrene, S.p.a., Milan, licensee of Risdon Mfg. in Italy.

4 A significant trend may be indicated by the use of metallic printing on paperboard rather than laminated foil for Colgate-Palmolive Co.'s new golden carton for Fab. It is reportedly one of the first applications on large surface areas. High sheen is said to add impact at point of purchase. Carton, Packaging Corp. of America, Evanston, Ill.

5 For added protection and to assure freshness, the folding box for Johnston Pie Co.'s frozen Walnut Raisin bread has an extrusion coating of polyethylene applied over the five-color, rotogravure-printed pictorial carton. An inner sealed wrap protects the bread. Carton is sealed at both ends and a simple tear tab opens one end flap. A tuck-in lock is provided for reclosure. Carton, American Can's Marathon Div., Menasha, Wis.

6 New idea in color coding is suggested by swirl-design plastic caps on opal glass packages for Rexall Drug Co.'s new prestige line of "New Awakening" hair preparations. Pink cap corresponds to a pink dot directly below the shoulder on the shampoo bottle. Blue cap and dot identify



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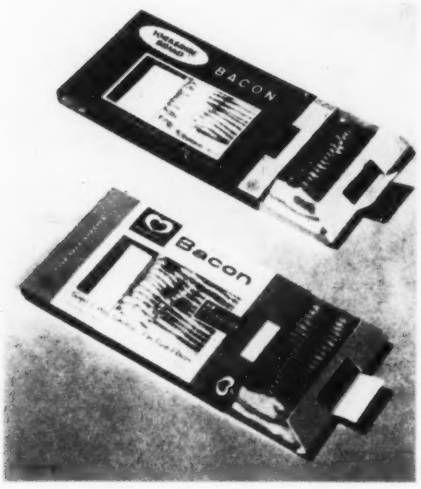

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the rinse: green distinguishes the conditioner. Caps, Armstrong Cork, Lancaster, Pa. Glass, Carr-Lowrey, Baltimore.

7 Glamorizing a dust mop so that it is attractive enough for gift giving has been achieved by an ingenious packaging idea. The mop is fitted on a die-cut card printed with a whimsical drawing of "Miss Mop-Pet," then placed in a heavy-duty transparent polyethylene bag with ribbon drawstring. Messina Bros. Mfg. Co. promotes it as "Mop-Pet, the personality mop." The package can be displayed on pegboard or in racks. Card, Enterprise Press, New York. "Sta-draw" bag (patent pending), Action Bag & Envelope, Brooklyn.

8 Consumer convenience is the aim of John Morrell & Co.'s new two-piece tray pack for bacon. The 1-lb. pack consists of a waxed sleeve having a transparent 3-by-5½-in. polystyrene window and a U-shaped white paperboard tray that slides in and out for easy selection of number of slices and to do away with messy re-wrapping. The package employs a new pattern waxing that eliminates the need for de-waxing in processing. "E-Z Tray Pak," Container Corp. of America, Chicago. Automatic packaging machinery supplied by Thiele Engineering, Hopkins, Minn.

9 Rigid plastic bottles blow molded of medium-impact polystyrene have been adopted by Shulton, Inc., as the new container for men's Old Spice Body Talcum. The polystyrene formulation is said to provide unlimited design freedom for added sales appeal and has sufficient chemical resistance to the product's essential oils. Container, Wilson Plastic Container Corp., Brooklyn, using Dow's Styron 777.

10 Luxurious effects by combining extruded and embossed polystyrene foam with paperboard are suggested by the handsome carton for Sir John by Schenley whiskey, which has the sheen of moiré silk. Tried out commercially for the first time, the technique reportedly could have many possibilities if economical methods of handling can be worked out. It's expensive, but beautiful, says a Schenley spokesman. Development by Gilman Bros., Gilman, Conn., and F. N. Burt Co., Buffalo, N. Y.

"Preserve packer's dream!"

... an over-all packaging situation so satisfactory, so settled, that the packer need hardly give it a thought.

Ask a preserve packer to list his serious problems, and it's most unlikely, nowadays, that he'll even mention *packaging.*

Recent developments have stabilized and standardized preserve packaging on such a generally satisfactorily plane that everybody—from packer to user—is well satisfied with things as they are.

Chief element in this happy situation is, of course, the coming of the Vapor-Vacuum ¼-turn "Twist-Off" Cap—and its almost universal adoption for preserve packaging.

• • •

Everybody likes the "Twist-Off". For protection, production efficiency, merchandising advantage, and convenience, it's so generally approved that its industry-wide adoption is easily understood.

But there's another factor even more important than these cap advantages which needs serious attention here. This is the fact that the "Twist-Off" is a product of White Cap—and, therefore, carries with it a long chain of plus factors. Seen in this light, the wide use of the "Twist-Off" actually grows out of the unique, long-standing relation between White Cap and the preserve packer.

Assurance—present and future

Preserve packers, like others who sell foods in glass, recognize that the White Cap research which produced the "Twist-Off" is very far-ranging and keeps on doing many jobs that packers want done.

Packers know that new key developments in preserve packaging will come from this same source whenever the need for them develops.

The packer knows, too, that White Cap is his constant ally on the production front. Here, solid help on engineering problems, on packaging line equipment, on preventive maintenance, and on plant economies is always at his elbow.

So, the preserver works with White Cap—and feels safe in the assurance that, whatever the future may bring, this alliance is one of his major assets.

"VAPOR-VACUUM"
Seal and Re-Seal

WHITE CAP COMPANY

DIVISION OF CONTINENTAL © CAN COMPANY

12-60

NEW "Twist-Off" CAP →
NEW Twist-Off CAP →
NEW Twist-Off CAP →
NEW "Twist-Off" CAP →

Economical all-foam case

W. H. Nichols wins new protection for delicate pump parts at lower cost with disposable rigid expanded-polystyrene 'showcase' and six interchangeable cushion inserts that serve 36 product combinations

A disposable featherweight container custom molded entirely of economical expandable polystyrene is giving new shipment and moisture protection at lower packaging costs to W. H. Nichols Co.'s line of delicate and expensive gear-pump parts. The shipper incorporates a rigid two-piece shell and six interchangeable cushiony inserts that enable one package to serve 36 different product combinations.

This Waltham, Mass., industrial company's all-foam container also projects a showcase appeal that was lacking in its former wood-and-steel package. In sum, it represents another expression of the ingenuity in design and development that is moving contourable foams far beyond their original function as platforms in plastic or paperboard boxes.*

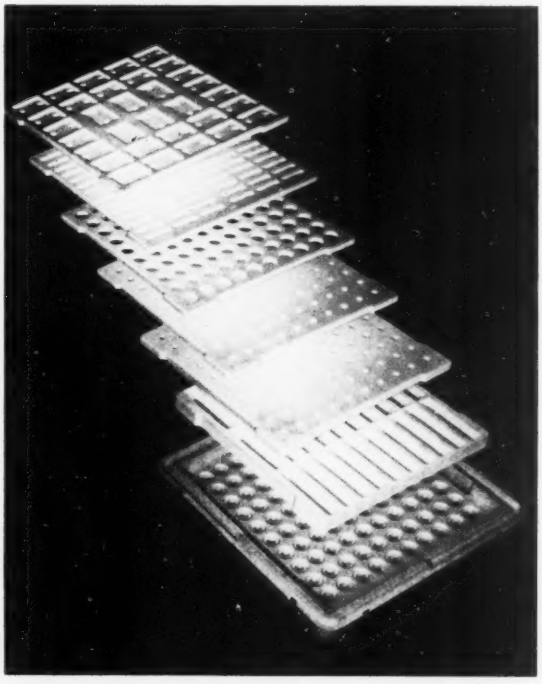
Nichols (400 employees; $3,500,000 sales) manufactures the pump parts on contract from Zenith Products Co., West Newton, Mass. Because these delicate components are machined to tolerances of 0.0000025 in. and a single container of parts may be valued as high as $300, in-package protection against handling and moisture damage is a critical requirement. The company formerly achieved this protection by loading the parts on steel tote trays which were then sandwiched between thick layers of corrugated-board cushioning in wooden boxes.

The high initial cost of these steel trays, says Nichols, made it necessary to invoice customers for them, to insure return. Even so, some 30% of the tote trays were returned in badly damaged or irreparable condition, the company notes. Another drawback reported for the wood-and-steel shipper was its bulk (an average loaded case weighed 13 lbs.) — a factor that made for high shipping costs.

In light of this evaluation, Nichols decided on a complete change in packaging that would cut costs while maintaining a high standard of product protection. The problem of how to do it was tossed to company packaging engineer, Mathew Jacobs.

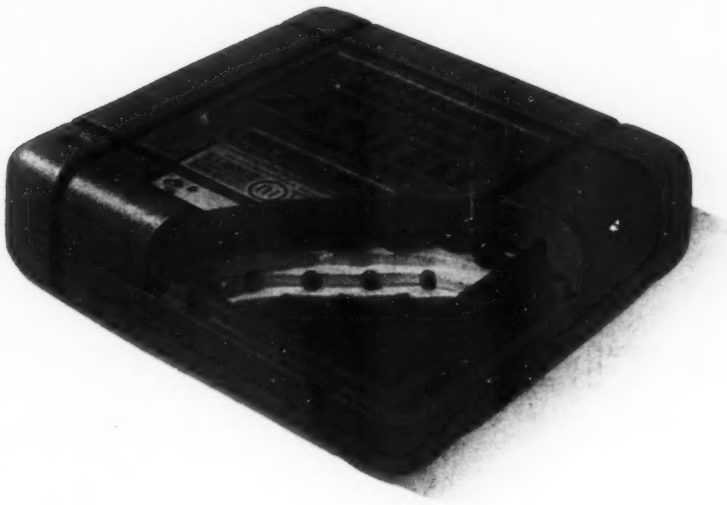
The custom-molded polystyrene-foam container developed by Mr. Jacobs is 10% smaller in volume than the shipper it replaces. More significant, the ultra-lightweight plastic unit is reported to cut shipping costs by 20%. And because the new container is disposable, it eliminates tedious and costly bookkeeping on tray returns by Nichols and by customer companies.

The all-foam container's shell consists of equal-sized top and bottom sections, whose facing rims are grooved and flanged for snug interlocking closure. A square pattern of 100 aligned holes is molded into the interior of each of the container halves. In the company's manual packaging operation, gear axles



Components *of W. H. Nichols' featherweight plastic-foam shipper for costly pump parts are shown here. Using different combinations of six inserts, one size of package accommodates any order that may be received.*

* See "Foamed Plastics on the Rise," MODERN PACKAGING, Oct., 1960, p. 95.



Cut-away *view illustrates the protection afforded by the all-foam container, whose ultra-light weight is reported to cut shipping costs by 20%. Pressure-sensitive filament tape seals the interlocking top and bottom sections.*

are inserted into these holes to hold the parts securely in position and to separate them.

To achieve desired rigidity and shape retention, the shock-resistant container is molded in a density of 3 lbs. per cubic foot. Tinted expandable-polystyrene beads are used to give the shipper an appealing light-blue color.

The six interchangeable inserts devised by Mr. Jacobs have molded-in recesses that conform to the shapes of the 14 different pump parts Nichols makes for Zenith. (Split orders, however, create three dozen product-packaging situations, all of which can be accommodated by the basic single-size package, using various combinations of inserts.) The white polystyrene-foam inserts are custom molded in a density of 2½ lbs. per cubic foot, to provide a softer, shock-absorbent interior cushion.

All package parts are cured for seven days by the custom molder before shipment to Nichols. This delay, the packager points out, guarantees absolute dryness of container components and prevents moisture pick-up by the products after packaging.

Because the foamed plastic is itself an excellent barrier to external moisture, Nichols has been able to minimize oil coating of the gear parts and to eliminate individual waxed-paper wrappings formerly used for some products. The result: additional savings in material and labor costs.

Gear-pump parts are packaged immediately after quality-control inspection as a safeguard against potential in-plant handling damage. The filled container is sealed by applying strips of pressure-sensitive rayon-filament tape to matching molded-in recesses around the top and bottom surfaces.

Nichols also has taken advantage of the easy formability of expandable polystyrene to incorporate brand and product identity as an integral part of the foam container. Raised lettering, tinted dark blue, identifies the contents as "Precision machined parts from Zenith Products Co." Nichols identification and other essential data are contained on a printed paper label adhered inside a rectangular recess on the lid's outer surface.

SUPPLIES AND SERVICES: Foam package and inserts molded by Expandex, Inc., Wauregan, Conn., using Dow's "Pelaspan" expandable polystyrene beads. Pressure-sensitive rayon-filament tape by Minnesota Mining & Mfg., 900 Bush Ave., St. Paul 6.

Separated *in the container by insertion into molded-in holes, precision-machined parts are packaged immediately after quality-control inspection to avert in-plant handling damage. Foamed plastic's moisture-barrier property cuts down on need for oiling products, eliminates wrapping of individual items in waxed paper.*

In each case of antifreeze, Prestone's new roll-feed machine positions sets of intricately combined wire-wound radiator tags and eight-page brochures. Production advantages suggest a wide range of merchandising applications

AUTOMATIC INSERTER

Tags are deposited *in cases of Prestone antifreeze by a new and simple roll-feed machine that extends over the edge of a case-conveying line. The strip of radiator tags with attaching wires neatly folded out of the way, is positively fed by a lug wheel (center) to a rotating cut-off knife (left), which severs five tags at a time. Mechanism is tripped by an electric switch on the conveyor.*

Point-of-purchase cards and product literature packed in manufacturers' shipping cases have become such popular merchandising devices that they have raised a mechanical packaging question: How can this printed promotion material be placed most efficiently in big production runs of such types of corrugated shipping cases?

The Prestone Div. of Union Carbide Corp., New York has neatly solved the problem by cleverly combining in one unit its customer pamphlets and the wire-wound tags traditionally hung on radiator caps to indicate use of antifreeze. Moreover, it has mechanized the packing operation by ordering these complex inserts in strip form so they can be roll fed on a new and simple automatic inserting machine. The unit, already installed at three of the four Prestone plants, is reported to effect total annual cost savings of $30,000.

The technique suggests its adaptation to a wide range of similar card and brochure merchandising aids in roll form and could, conceivably, be adapted to hopper-fed loose sheets and pamphlets that do not lend themselves to attachment in roll form.

Merchandising considerations as well as savings in production costs were important in the new development. The radiator tags and eight-page booklets are major sales tools for antifreeze. Previously, these items, dropped by hand into the can-filled shippers, scattered throughout the case, minimizing their importance to gas-station attendants.

From the production standpoint, the wires on the tags, which extended straight out from the tag, encouraged tangling and made automatic packaging virtually impossible. So the first step in solving both production and selling problems was a change in the tag and folder combination.

Promotional 'package' *of radiator tag and eight-page folder is combined by mounting the brochure under die-cut tabs on tag and securing it with a staple. The wire is looped and tucked into a second slot in the tag to prevent tangling and to insure smooth operation on the packaging machine.*

This was accomplished by the tag supplier with an ingenious modification of standard tag-wiring machines that folds and tucks the wire securely into a die-cut slit in back of the tag. The promotional folder, mounted on front of the tag, is held in place at the top by two triangular tabs die cut in the tag and at the bottom by a staple, which is also applied automatically on the machine. The combination measures $2\frac{7}{16}$ by $5\frac{15}{16}$ inches.

The tags are formed from 13-point solid sulfite board, laminated to 0.00035-in. foil. Basically green, they are gravure printed in black on both sides. The bottom portion of the tag is perforated and contains a guarantee statement. A device mounted at the end of gravure press partially die cuts adjacent tags vertically, leaving them attached at tops and bottoms. In a separate operation, the wires are attached through a reinforced punch hole in the tag and tucked into place, and the folder is added. The tags are finally rolled for shipment in coils holding almost 5,000 apiece.

In use at the Prestone plant in Carteret, N.J., for instance, a coil of tags is loaded on a horizontal free-spinning turntable that is part of the packaging machine. The upright strip of tags is threaded around a spring-loaded idler wheel and then passes around a lug wheel, where spaced projections catch the eye hole in each tag and provide a positive feed and timing mechanism. All mechanical motion is controlled by a single-revolution inducing clutch. The strip of tags is thus forced into a narrow track, where a rotary knife cuts off five tags at a time. The number of tags per case has been determined by Prestone from the average product quantities used by motorists (almost $1\frac{1}{4}$ gallons).

The cases of antifreeze, containing either 24 one-quart cans or six one-gallon cans, travel from case loaders to inserting machine by roller conveyor at a rate of 12 per minute. As each case reaches the special machine, it trips an electrical switch which activates the unit. As each strip of five tags is clipped from the roll, a knurled wheel under the feed track, activated by an air motor, kicks the strip into position; it then slides down a chute and out onto the tops of the cans in the case. Timing is important, since the tags must be positioned in the case under the end flaps, protected from the glue applied to the main flaps.

The accessibility and neat appearance of the new strip tags are reported to make a favorable impression on the service operator and the increased ease of handling has encouraged greater use of this promotional material, according to the packagers.

SUPPLIES AND SERVICES: Roll-fed tags and inserting machine by American Tag, Belleville 9, N.J.

Bake-in tray package offers new efficiency and appeal

A foil-laminated linerless paperboard tray package that serves double duty as an in-plant baking pan and an in-home reheating container has been adopted by The Kroger Co. for a broad variety of bakery products. This Cincinnati-headquartered retail food chain reports that the economical new bake-in package not only offers greater point-of-purchase appeal and convenience to consumers, but also has led to a substantial reduction in handling costs.

Before going to the heat-resistant foil-laminated tray, the company baked its cake products in metal pans of various sizes, then removed the items for packaging in cellophane-overwrapped paperboard trays. This double handling operation (which also entailed the greasing and washing of pans) has been eliminated under Kroger's new method, in which the baking pan becomes the consumer package as well. After the product has been baked and cooled, the filled tray container is conveyed to automatic machinery for overwrapping in cellophane. Finally, a printed paper label is applied to the transparent overwrap. *Foil-laminated tray containers by KVP Sutherland Paper Co., Kalamazoo, Mich., and Marathon, Div. American Can Co., Menasha, Wis.*

COST

Stretch-paper bags cut costs

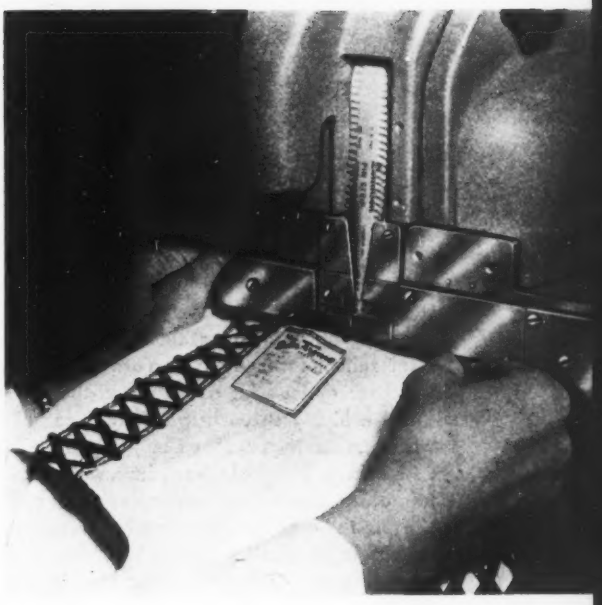
Illustrating the awareness by industrial packagers of the marketing values of improved container performance and upgraded product identity, Shell Chemical Co., New York, is sending dry fertilizers and polystyrene resins to customers in bleached extensible-kraft multiwall bags incorporating a bright new surface design. The 50- and 80-lb.-capacity bags save 30 lbs. in basis weight from the conventional kraft multiwalls formerly used, for a 7% reduction in bag costs, says Shell. The tough, shock-absorbent, stretchable paper also is said to be more resistant to bag rupture. According to the packager, the paper's pliability makes the bag easier to fill as well, since incoming product fills out gussets more readily than in the stiffer multiwall kraft bags.

The Shell logo and product name appear prominently in color on the face of the bag, whose bright white surface is calculated to stand out among competitors. To simplify identification when the containers are palletized, basic label data are printed on a panel across the bottom of the bag. *Extensible-paper bags fabricated under license from Clupak, Inc., 530 Fifth Ave., New York 36. Design by Raymond Loewy Associates, 488 Madison Ave., New York 22.*

Economy in textile tagging

Soft-goods packagers faced with the prospect of increased tagging costs under the stringent requirements of the new Textile Fibre Products Identification Act may find a solution to this problem in the experience of the New Knit Mfg. Co., Lowell, Mass. A manufacturer of bathing suits, New Knit formerly had used one all-purpose tag containing brand names, care data and simple fibre identification (i.e., "Made of acetate, cotton and elastic yarn"). The tag was attached manually under the former procedure.

The Textile Fibre Act, with its provision that soft-goods labels must list in percentage order the fibre content of the product, made this one-for-all tag unusable. No single tag could so identify the multiplicity of fibre-content combinations in New Knit's line. But the company reports that it has beaten the problem with a semi-automatic machine that simultaneously imprints required data and pins the tag to the garment. Interchangeable type chases are inserted into the machine to match each order. Despite the increase in tagging volume, says the firm, one worker can tag a full day's volume, as before. *Imprinting and pinning machine by Dennison Mfg. Co., Framingham, Mass.*



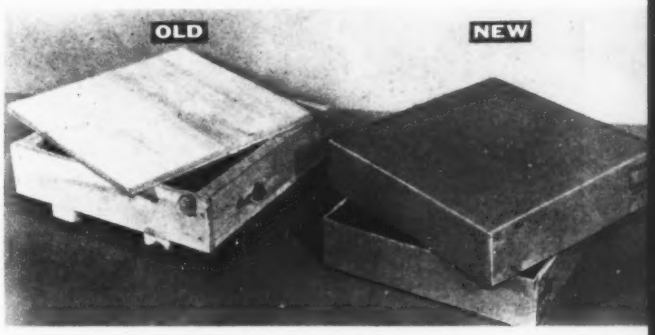
CUTTERS

Polystyrene-foam-and-paper shipper saves 30%

Westinghouse Electric Corp. reports an 80% saving in the cost of packaging small transformer parts since adopting a strong, lightweight shipping container made of a prefabricated "sandwich" of polystyrene foam between two sheets of kraft paper. The material also is said to possess superior insulative qualities and moisture resistance, suggesting its application for shipment of such diverse products as fragile instrument components and bottles of volatile acid, frozen foods and ice-packed flowers or fresh produce.

Two different sizes of box are used by Westinghouse for this packaging application. One measures 4 in. high by 14 in. square, while the other is 18 in. square and of the same 4-in. height.

The walls of the new foamed-plastic-and-paper telescoping box (used by Westinghouse's Transformer Div., Sharon, Pa.) are only ¼ in. thick. Despite the container's seeming fragility, says the packager, it provides protection against handling and moisture damage to critical transformer parts. To achieve comparable protection, the company formerly packaged these parts in polyethylene bags which, in turn, were packed into nailed wooden cases. *Box by St. Regis Paper Co., Canton Corrugated Box Div., 150 E. 42 St., New York 17, using a lamination of paper and polystyrene foam supplied by Fome-Cor Corp., 812 Monsanto Ave., Springfield, Mass.*



PI looks at packaging

Despite obstacles ahead, encouraging projections for the next 10 years are sketched for 1,092 packaging men at the Packaging Institute's 22nd Annual Forum

Packaging specialists at the Packaging Institute's 22nd annual forum in New York last month surveyed the outlook for packaging in the 1960s and found it highly encouraging. They were guided to this optimistic appraisal by a majority of the forum's 67 speakers, many of whom, however, predicted a future compounded of both promise and problems.

From the opening *Life* magazine presentation on "Packaging Potentials for the '60s," which dramatized in terms of the exploding American market both the opportunities and challenges for packagers in this decade, to the closing "wrap-up luncheon" two days later, where the technical and professional goals of PI itself were spelled out, the speakers' papers generally used the evident accomplishments of the recent past merely to emphasize how practical are even the most glowing predictions. *Life* set the pace by pinning its projections on a MODERN PACKAGING estimate that the packaging field will expand 59% by 1970.*

Annual awards *were won by (left to right) Dr. Jules Kleiner, director of research, representing American Cyanamid's Surgical Products Division, winner of the Corporate Award for an outstanding advance in applied packaging technology; Charles A. Lewis, director of the Containers and Packaging division, Business & Defense Services Administration, U. S. Dept. of Commerce, winner of the Professional Award, and W. Earl Graham, vice president of sales, Clayton Corp., who was cited for the best technical paper presented during the three-day forum.*

Forum registration of 1,092 compared with last year's 1,258. In both instances, the total number of individuals attending the three-day session was increased through the use of transferable registrations.

For the fourth year, PI honored an individual for major professional accomplishment in packaging. This time the institute selected a packaging man in Government service, giving its annual Professional Award to Charles A. Lewis, director of the Containers and Packaging div., Business & Defense Services Administration, of the U. S. Department of Commerce.

For the second successive year, PI cited a suture package in presenting its annual Corporate Award for an outstanding advance in applied packaging technology. This time American Cyanamid's Surgical Products Div., Danbury, Conn., was hailed for a new method of hermetically sealing bonded polyethylene-polyester material to create individual sterile suture packaging in unbreakable envelopes.

PI's third annual TOC award, a citation by its Technical Operations Committee for the outstanding technical paper delivered at the Forum, went to W. Earl Graham, vice president of sales of the Clayton Corp., St. Louis manufacturer of aerosol valves. His paper covered the packaging of foods in aerosols, and will be published in full in a later issue of MODERN PACKAGING.

Special presentations were made to Charles W. Kaufman, National Dairy Products Corp., retiring after two years as PI president; Roy W. Abling of the Merck, Sharpe & Dohme Div., Merck & Co., Inc., Forum chairman for the past two years, and Ben Gordon, National Starch & Chemical Co., an active member of the Forum committee.

Mr. Kaufman also retired as director, as did Harold W. Edwards, Lever Bros. Co., and Wallace E. Coughlin, also National Dairy Products.

The institute's new president is Lawrence H. Zahn, Ciba Pharmaceutical Products, Inc. New vice presi-

*See "The Surging '60s," MODERN PACKAGING, Jan., 1960, p.71.

to come

Opening luncheon *at the Packaging Institute's 22nd Annual Forum heard Bristol-Myers vice president Orlin E. Johnson keynote three-day sessions with talk on "Packaging for the '60s."*

dents and executive committee members are Fred W. Langner, Socony Mobil Oil Co., Inc., who doubles as treasurer, succeeding Harold Mosedale, Jr., Package Machinery Co.; Allyn C. Beardsall, The Mead Corp., who will handle membership, and Iven G. Nichol, Morningstar-Paisley, Inc., who will direct next year's Forum. The 1961 PI Forum will remain in New York but will shift hotels, running Oct. 18-20 at the Biltmore.

Dr. L. E. Simerl, Olin Mathieson Chemical Corp., was re-elected vice president in charge of committee activities, and Charles A. Feld was re-elected executive director. Three new directors are William H. Enzie, General Foods Corp.; Lloyd Stouffer, Editor of MODERN PACKAGING, and Mr. Nichol. Mr. Zahn reported the institute's total membership increased from 930 at the beginning of the year to 1,178 now, with the greatest growth in the professional category, up from 320 to 524.

A full house heard *Life* magazine marketing experts warn that any packager planning to make the most out of the dynamic American market by 1970 must be planning now because, in *Life's* words, "1965 will be too late."

Orlin E. Johnson of the Bristol-Myers Co., keynote speaker at the opening luncheon, predicted that many colleges and universities will soon offer courses to train the packaging personnel needed to execute exciting new packaging concepts demanded by new merchandising techniques which are soon to be developed.

The mid-forum luncheon speaker, *Dudley J. Taw*, Revlon, Inc., spelled out with revivalist fervor how to get more sell in the packages he predicts will help the country's 55,000 drug stores double their sales volume in 10 years.

Dr. Frank Campins of Polymer Industries, Inc., last year's winner of PI's Professional Award, told the final luncheon audience that the success of the truly professional packaging man is based on the exercise of informed initiative—the ability to bring the best available information to bear in resolving a problem.

Package marketing

Three significant aspects of self-service merchandising were highlighted in the Package Marketing Seminar. *Charles Brett*, Boxboard and Folding Carton div., Continental Can Co., displayed four salt packages: a 5-lb. bag; a 1-lb. canister, a multipack of six table-ready shakers, and a multipack of tiny individual-service shakers. The consumer is paying from 5.8 cents to 82 per lb. for salt in these containers, he said. Why? Because she considers the package a part of the product when buying salt in these convenient new forms. And so, he said, must all manufacturers when planning packages to stimulate sales at the point of purchase.

Robert G. Neubauer, Robert G. Neubauer, Inc., package design, coined a phrase, "the articulate package." With the consumer doing virtually all the selling to herself, he said, it becomes increasingly important for the package to communicate all information about inner quality and end-result images, whether cleanliness, flavor, efficiency or quantity.

Gerald Stahl, Gerald Stahl Associates, industrial design, warned against the "monotony of excel-

The complete proceedings of this year's forum will be published later by the institute. Write to the Packaging Institute, 342 Madison Ave., New York 17.

Newly elected officers *of the Packaging Institute are (left to right): Allyn C. Beardsall, The Mead Corp., vice president; Lawrence H. Zahn, Ciba Pharmaceutical Products, Inc., president; Iven G. Nichol, Morningstar-Paisley, Inc., vice president, and Fred W. Langner, Socony Mobil Oil Co., vice president and treasurer. Mr. Zahn succeeds Charles W. Kaufman, National Dairy Products Corp.*

lence," which he declared is destroying package effectiveness. It's time for managements to be independent and courageous instead of predicating their thinking on the "me-too" approach by looking at what the other fellow is doing, he said.

Techniques for successful merchandising of nonfoods in supermarkets were discussed by *Edward Korenvaes*, Akorn Housewares Corp., and an officer of the American Rack Merchandisers Institute. "Rotate, Rebuild, Re-Order" is his three-R formula for continuing movement of 450 to 600 items in the same gondola. *Roy D. Connell*, J. Wiss & Sons Co., was seminar chairman.

Corrugated and fibreboard

A capacity gathering at the Corrugated and Fibreboard Packaging Seminar heard a prediction of intensified competition in this field in the 1960s, leading to vastly improved materials and higher-speed machinery for handling them. The speaker was *Allyn Beardsall*, New Products div., The Mead Corp. He told his audience that packaging-material suppliers will move strongly toward a "total-systems" approach, offering not only the material but specialized high-speed machinery for handling it. He also noted that as papermaking techniques become more refined, paper surfaces will become smoother, enabling the use of thinner barrier coatings and leading to greatly improved package performance at substantially lower cost.

Another forecast of improved corrugated performance was made by *Charles O. Roth, Jr.*, Hinde & Dauch Div., West Virginia Pulp & Paper Co. Mr. Roth described industry efforts toward the development of economical corrugated shippers, that retain dry firmness when wet, for such moisture-containing products as fresh produce. The functional and merchandising advantages of foil-laminated corrugated were discussed by *Richard G. LaBudde*, the Aluminum Co. of America. The potentials of corrugated and fibreboard containers in consumer packaging were outlined from a user company's viewpoint by *Carl J. Begemann*, merchandising manager of A.S.R. Products Corp. *Frank P. Coons* of Johnson & Johnson was seminar chairman.

Packaging research and development

Stating that the need for professionally trained packaging specialists is becoming ever more urgent, *H. G. Walter*, Packaging Foundation, Inc., Michigan State University, warned that educational programs will have to be expanded to meet future needs for trained personnel. Approaching the problem of packaging progress from a different angle, *Peter B. Baker*, Arthur D. Little, Inc., said that the independent research organization can provide the impartial analysis needed to meet competitive conditions. *G. T. Schjeldahl*, G. T. Schjeldahl Co., described his firm's approach to research and told how it had led to better sealing of polyethylene and Mylar.

Still another approach to successful package development was outlined by *Ralph F. Hansen*, Plastics div., Monsanto Chemical Co. Creative thinking, ranging from plans for self-heating cans of soup or shipment of fruits by missiles, can be envisioned, he stated; market research and further development can then be used to measure the right of an idea to a place in packaging. Another important source for advances in packaging research is the work done by the technical committees of the Packaging Institute, *Dr. L. E. Simerl*, Olin Mathieson Chemical Corp., pointed out. *Paul B. Reuman*, Continental Baking Co., headed this seminar.

Drug and pharmaceutical

"We've got the gallop to stand still," said *L. I. Volckening*, Ivers-Lee Co., predicting unit-packaging speeds far in excess of the 1,000-per-minute rates of today. High-speed machinery and more economical materials are among the ways to beat rising costs in a decade of intense competition, he told the morning session of the Drug and Pharmaceutical Seminar. Anticipated improvements in unit packaging will be better opening and closing devices, new pour spouts and new shapes and constructions. Badly needed are lower-cost printing and a truly impervious transparent packaging film.

Louis H. Pfohl, Plaxall, Inc., expects "explosive expansion" in thermoformed packaging, with demands by major companies for quantities of a million units or more per day. Mechanical techniques for producing the new stretchable-film card packs were described by *A. R. Cozzolino*, Stretch-Pak div., The Nevins Co. The seminar was headed by *Hugh*

"Knox furnishes 85% of our juice bottles," says production manager of large cranberry cooperative

"Since Knox first supplied us with glass containers four or five years ago, we have increased our consumption of their bottles from 20 per cent of our total to 85 per cent," says the Production Manager of one of the nation's foremost producers and packers of cranberries.*

"This represents a considerable increase in quantity as well as in percentage, because our cocktail production has gone up 50 per cent since 1957, and has quadrupled since 1950," he said.

"There are two very important reasons why we use Knox Glass in such a large proportion. First is their bottle quality—we have enjoyed a tremendous reduction in breakage over the last four years. Glass breakage is not a real problem with us any more.

"The other benefit we enjoy from using Knox is their extremely dependable delivery. They deliver when they promise they will—and this dependability has allowed us to reduce our own bottle inventory from 50,000 cases to 15,000 cases for emergency use only.

"We've found we can depend on Knox."

Contact the new/Knox Glass for your glass container needs: Knox Glass, Inc., Knox, Pa., or any one of 37 sales offices.

*Name available on request

the new / **KNOX GLASS**

Horner, Chas. Pfizer & Co., Inc., and moderated by *Charles Spannello*, Schering Corp.

The afternoon session of this seminar heard that the use of plastic bottles is expanding at a rapid pace in the drug and pharmaceutical field. *W. O. Bracken*, Hercules Powder Co., described some molding techniques that are contributing to progress, and *Anthony Iannacone*, Fluid Chemical Co., Inc., reported that many of the problems of handling and filling linear-polyethylene bottles are being solved.

Dr. R. Vernon Jones, Phillips Chemical Co., said that some of the next big uses for polyethylene bottles would be to contain bleaches, waxes, pharmaceuticals and shampoos. Plastic-bottle production was a half-billion units in 1959 and the total may be a billion units this year, said *Leonard G. Phillipps*, Pressed Plastics div., Owens-Illinois Glass Co., adding that the price of resin for bottles might eventually drop below 30 cents a pound and that this would give plastic bottles additional markets. *Carl B. Burnside*, Eli Lilly & Co., was seminar chairman and *James L. Eagan*, Rexall Drug Co., was moderator.

Production line and machinery

A spirited evaluation of electrical, pneumatic, hydraulic and mechanical mechanisms for the generation of motion and the control of packaging functions highlighted the morning session of the Production Line and Machinery Seminar.

Speaking in favor of electrical drives and controls, *R. C. Berger*, General Electric Co., cited the advantages of mechanically adjusted, eddy current, D/C power and magnetic amplifier variable speed drives in modern packaging machinery. However, *Hale S. Cadieux*, Bellows Valve Air div., International Basic Economy Corp., declared that pneumatic elements have great flexibility of speed, stroke and control and are ideal for quick replacement, operations requiring multiple motions and easy maintenance. *Gene Lakso*, The Lakso Co., Inc., asserted that mechanical motions are superior to both electrical and pneumatic devices. While conceding that such equipment is good for control and motion operations that are remote from the source of power, that have great complexities or that are located in limited space, Mr. Lakso insisted that mechanical components surpass other systems in high-speed and rapid stop-start operations.

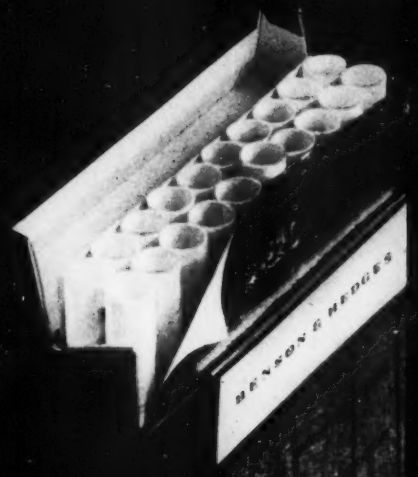
Turning to the outlook for aerosols, *Morris J. Root* of G. Barr & Co., predicted that the market for these pressure packages for both foods and nonfoods would leap to 2.4-billion units by 1970. The new field of packaging with shrinkable films was briefly reviewed by *W. J. Rothfuss*, Cryovac div., W. R. Grace & Co., who showed slides of equipment suitable for handling shrinkable films in six different types of packaging operations. *R. Ross Kitchen* of Sterling Drug, Inc., headed the morning seminar.

Mechanical wonders of the packaging world in 1970 was the theme of the afternoon session. This imaginative approach was highlighted by an elder statesman of the packaging-machinery field, *Roger L. Putnam, Sr.*, Packaging Machinery Co., who painted a vivid picture of continuously extruded and baked bread, cut and then wrapped in a continuous tube of plastic film; of decorating both rigid and flexible packages with little pellets that expand into printed designs with the application of heat, and of rigid plastic bottles that are formed, filled and sealed at a single stroke. These wonders will come, he concluded, just as soon as "one or two minor engineering details" are worked out.

Automatic programming by computer for the entire scheme of production, warehousing, inventory control and distribution was suggested by *W. E. Wood* of Processes Research, Inc. Noting that the techniques are already available, Mr. Wood visualized complete and centralized control of branch-plant operations and distribution over the entire country by the end of the decade. Carrying imagination into production operations, *L. R. Srigley* of Parke, Davis & Co. proposed a radical new production plant built entirely [*Continued on page 176*]

The anatomy of a cow *was the erudite subject of the Awards Dinner speaker, James G. Hays, professor emeritus at Michigan State University. Professor Hays' talk ended the dinner on a note of high humor.*

Ingenuity gives
added dimension,
distinctive new look to . . .



Cellophane overwrap by Milprint Inc.

another prestige product packaged by BURT

CIGARETTE-CASE PACKET BY BURT for Benson & Hedges cigarettes offers the ultimate in product protection. The pull-out, flip-top tray, with unique break-back construction, permits easy cigarette removal.

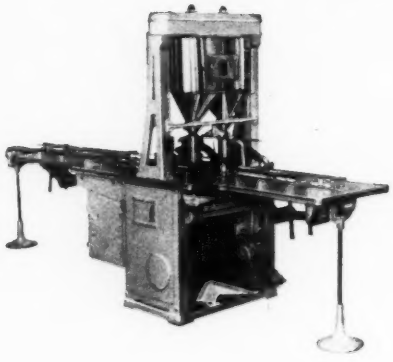
The unopened package shows the Benson & Hedges logotype boldly imprinted on the overwrap. Removed, the cellophane reveals a distinctive package of quiet good taste—suitable for a product of quality.

Designed by Walter Landor & Associates, the package features an unusually complex, third dimensional, natural wood grain effect. Drawing on years of packaging experience, Burt successfully achieved this effect with an intricate 7-color offset lithography printing process.

F. N. Burt Company, Manufacturers of Small Set-Up Boxes, Folding Cartons, Transparent Containers. 2345 Walden Ave., Buffalo 5, New York. Offices in Principal Cities or Write Direct. Canadian Div., Dominion Paper Box Co., Ltd., 250 Islington Ave., S., Toronto 18, Ontario, Canada.

FMC Auger Fillers meet high-quality standards for Chesebrough-Pond's

Chesebrough-Pond's Inc., has long been well-known in the cosmetic industry for products of the highest quality. For many years they have used FMC Auger Fillers to meet the high standards they maintain for their powder and talc products. Ten FMC automatic and semi-automatic fillers of three different types fill a wide variety of sizes and kinds of containers from gold-finished metal canisters to lithographed paperboard drums.



The Duplex Auger Filler model HG-84 is one of the FMC units installed at the Chesebrough-Pond's plant in Clinton, Connecticut. Completely automatic, this model is designed with a choice of filling methods—cam volumetric, gross weighing, or auger combined with vacuum for pack filling dusty products—at speeds up to 70 containers per minute. Many other models are available for large or small plants, automatic or semi-automatic operation, tight or loose fills, long or short runs to handle powders, granules, and certain pastes. Production run accuracy has proved outstanding in filling cans, jars, boxes, bags, etc. from ½ oz. to 20 lb. Changeover for product and size is exceptionally fast and simple. Speeds as high as 140 per minute.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
FMC Packaging Machinery Division
Stokes & Smith Plant
4904 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

For the whole story of how FMC Auger Fillers can improve your packaging, write for Bulletin P-811.

Technical & Engineering

Charles A. Southwick, Jr., *Technical Editor* Robert J. Kelsey, *Engineering Editor*

High-density PE containers

*PART I. Selection of proper raw materials and special design considerations are discussed here, with package evaluation and test methods to follow.** By Brooks B. Heise†, J. H. Parliman†† and Jules Pinsky††

High-density polyethylene containers have received a rather great amount of attention during the past year. And this is proper, in view of the rapid acceptance of these packages which has taken place in 1959 and 1960. However, most of the published material has examined either the non-technical aspects of the subject, or has been directed towards coverage of the subjects of the high-density polyethylene material itself (1)‡ or of the blow-molding process and equipment (2, 3, 4).

Our aim here is to discuss three broad aspects of high-density polyethylene containers from a practical engineering viewpoint, i.e., selection of proper raw materials, design considerations and package evaluation. The word "practical" is the key here. We have attempted to present material which can be utilized by package users for background purposes and which will serve as a guide in considering the use of new high-density polyethylene bottles.

Selection of materials

Since one of the purposes of this paper is to validate some previously published data (5, 6), as well as to present new performance and test records, we shall attempt to define our terms exactly.

High-density polyethylene, wherever referred to subsequently, denotes polyethylene as specified in ASTM designation D-1248 Type III, with an annealed density range of 0.941 to 0.965. The material is checked for density by the density-gradient technique (ASTM D-1505). It must be borne in mind that the densities of sections from diverse areas of bottles are quite different from, and not necessarily governed by, the annealed density of the base polyethylene molding resin.

We shall be concerned with both homopolymers (such as Hercules Hi-fax 1600E and Phillips Marlex 6002) and the copolymers of the Phillips Marlex 5003 type. This latter Phillips type is popularly designated as a copolymer material because of a small amount of polybutene.

For further purposes of clarification, we shall divide the polyethylenes into two groups:

1. The Ziegler-type homopolymer (with an annealed density of approximately 0.946): for example, Hi-fax 1600E grouped with the Phillips-type

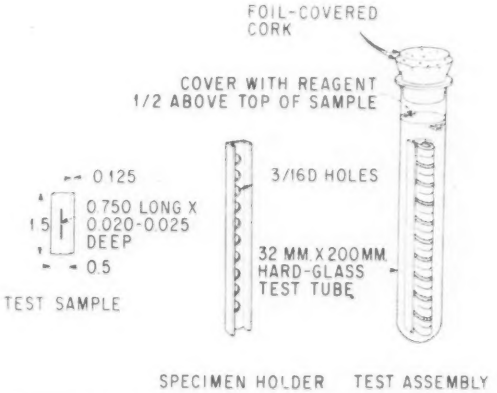


Figure 1. *Details of Plax test set-up for measuring stress-cracking activity of product. Test samples of extruded polyethylene are scored longitudinally, bent and inserted in specimen holder, then immersed in a stoppered test tube filled with the product under test.*

* Adapted by permission from a paper presented at the 22nd Annual Forum of the Packaging Institute, New York, Nov. 2, 1960.

† Manager, Product Engineering. †† Technical Service Manager and †† Chief Physicist, Plax Corp., Hartford, Conn.

‡ Numbers in parentheses identify References appended.

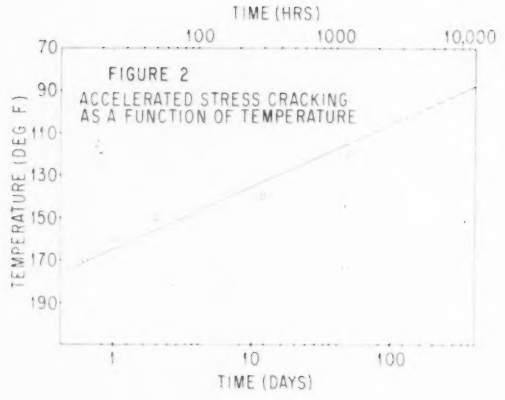


FIGURE 2
ACCELERATED STRESS CRACKING AS A FUNCTION OF TEMPERATURE

copolymer (annealed density of 0.950), such as Marlex 5003, and Monsanto copolymer MHD-251 (annealed density 0.944).

2. The Phillips homopolymer (annealed density 0.960), such as the Phillips 6000 series, Grace Grex and Celanese Fortiflex.

Care must be exercised in speaking of annealed densities. The densities as measured immediately after blow molding can, and do, range widely. For example, a 32-oz. commercial bottle made from a 0.960 resin can have densities ranging from 0.940 to 0.965 in different sections of the same bottle, i.e., mid-wall vs. neck. It should also be recognized that the density will generally increase on aging, with the amount and rate of increase dependent upon processing and storage conditions. Careful measurements some weeks after bottles are blown will show an increase in both density and crystallite size.

While it is true that processing conditions of bottle manufacturing can sometimes mask the differences between a 0.950- and a 0.960-density resin, bottles made on the same equipment will usually reflect the inherent density differences.

On the whole, 0.960-density homopolymer materials are more stiff, slightly less permeable, more resistant to high temperatures, less resistant to environmental stress cracking than the 0.946 homopolymers or the 0.950 copolymers. A 0.950 copolymer will present a Young's (stiffness) modulus in flexure of 105,000 p.s.i., while a 0.960 homopolymer is measured at 130,000 p.s.i. Sixteen-ounce, 20-gm. test bottles will pass a minimum Igepal stress-crack test period of 120-168 hrs. at 140 deg. F. when made from polyethylene in the 0.944-0.950 density range, while bottles identical in every other respect, except that they are made from a 0.960 polymer, will sometimes stress crack to 100% failure within 6-20 hours.

It is therefore obvious that materials which show a high degree of environmental stress cracking, such as detergents and shampoos, should be packaged in the lower range (0.944-0.950) of high-density resins. Some products, such as bleach, starch and other low-stress corrosion-producing materials, often can safely be packaged in bottles molded of the more rigid 0.960-density material.

The variation in density that is found in different sections of a bottle arises from any one or a combination of the following variables:

(a) temperature of the parison (extruded tube)
(b) thickness or geometry of the parison
(c) temperature of the mold
(d) temperature of the blown bottle
(e) geometry of the blown bottle
(f) cooling or storage after leaving the mold
(g) heating during treatment (for printing)
(h) drying during oven treatment (after printing)

In too many instances attempts have been made to characterize a blow-molding resin by its melt index, which is a measure of viscosity at 374 deg. F. at a pressure of 44 p.s.i. (ASTM D-1238). Such an index is only a very rough measure of average molecular weight for a particular resin as manufactured and compounded by a particular supplier. Melt index can be an indicating guide that an excess of low molecular weight is not present in a particular polymer. Thus, while it might be necessary to specify a maximum of 0.1 dgms. min. for a 0.946-density polymer from one supplier to insure proper molding powder to produce a stress-corrosion-resistant bottle, resin from a second supplier might have a melt index as high as 0.5 dgms. min. and still be capable of processing into bottles with excellent environmental stress-corrosion crack resistance.

In general, the lower the melt index, the higher the average molecular weight and the greater the protection against environmental stress cracking.

Environmental stress cracking is a term much used and abused in discussing the failures of thermoplastics. It would therefore be advisable to define those conditions which cause such cracking.

For environmental stress cracking to occur there must exist all of the following conditions:

1. An environment in intimate contact with the polyethylene which lowers its ultimate strength.

2. A flaw in the polyethylene, which allows this environment to penetrate (as opposed to chemical solubility and diffusion).

3. A biaxial stress.

The nature of materials that are environmental-stress-cracking agents for polyethylene is difficult to define and differs for low-density vs. high-density polyethylene. On the whole, if a material is a good wetting agent for the polyethylene, it is often an active cracking agent. This, of course, involves not only the chemistry of the environmental material,

but the nature of the polyethylene itself, with regard to additives, pigments, stabilizers, catalyst residue, clean-up agents and mechanism of manufacture.

If we consider the now phenomenally successful detergent package for a moment it is obvious that:

1. The detergent is an accomplished wetting agent of very high-stress-cracking potential.

2. The methods of making the bottles, which generally consist of blowing up a tube, introduce surface flaws on both inside and outside surfaces.

3. The vapor pressure within the bottle, plus atmospheric as well as mechanical pressures introduced during shipping, handling and storage, exert a biaxial stress. In addition, any areas in which there is a sudden change in thickness or geometric configuration are areas of high stress.

In 1959 ASTM adopted tentatively the Bell Laboratories method of measuring environmental stress cracking on low-density polyethylene. This specification is ASTM D-1693-59T "Environmental Stress Cracking of Type I Ethylenes."

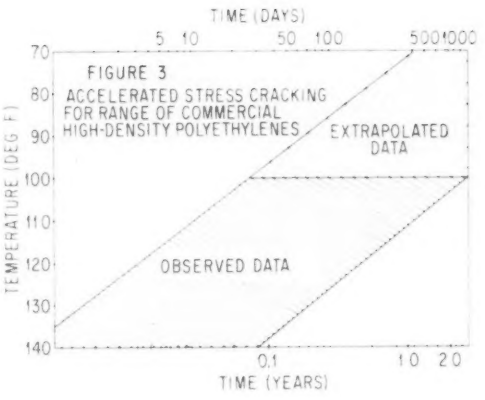
We at Plax have used a modification of this test method for many years as a tool for measuring the stress-cracking *activity* of *customers' products.*

Our procedure calls for cutting a 1½-in.-long test blank from an extruded strip of 0.920-density polyethylene ½ in. wide by 0.125 in. thick. In the center of this blank, a line (the flaw previously mentioned) is scored longitudinally along the central ¾ in. to a depth of from 0.020 to 0.025 in. These test blanks are then bent along their long axes with the "controlled imperfection" on the outside. They are bent with a jig and then inserted into a stainless steel holder which maintains the sample in the bent condition. This assembly is then lowered into a test tube filled with the product to be tested for its cracking activity. (See Figure 1).

In order to obtain uniform test samples, Plax extruded under controlled conditions many miles of this polyethylene strip. The polyethylene was carefully selected from the type which is used for blow molding low-density bottles.

These samples used to test customer products for stress-corrosion activity are graded on an arbitrary scale of 1 to 5. A very fast cracking agent such as a shampoo would typically be graded No. 5. A non-cracking agent such as some emulsion-base hair conditioners would be graded No. 1. By rating the degree of activity of the product, the molder is then in a judicial position to select the proper molding powder for the particular proprietary item.

The environmental-stress-cracking test procedure described under Test Methods below has been adopted at Plax for the evaluation of stress-cracking resistance of high-density polyethylene bottles. The method of testing is similar for production bottles,



as well as for those which are especially blown for the evaluation of new resins.

In the case where a new high-density polyethylene is being evaluated for stress-cracking resistance, a similar test procedure is used. Sixteen-fluid-ounce cylinder bottles are blow molded from the subject resin at a 20-gm. weight for test purposes. Igepal CO-630 is used as the cracking environment.

Although, in our research laboratories, we regularly use Igepal as a bottle-test liquid, our customer-service laboratory naturally attempts to obtain samples of the customer's product for testing the projected shelf life of the containers. Since proprietary mixtures, such as detergents, are subject to change, our research laboratory prefers to use Igepal as a standard measuring stick in such tests.

Although our standard crack-test temperature is 140 deg. F., we have conducted tests at 150 deg. F. and higher, but we found that at temperatures above 150 deg. F., for containers which show long-time life, the effects of thermal embrittlement are imposed upon stress cracking and it is impossible to know which effect is causing failure.

A typical curve for failure of well-molded 16-oz.-cylinder, 20-gm., high-density bottles is shown in Figure 2. The particular resin used is one which shows a moderate susceptibility to stress cracking.

On this curve we have not plotted our 100 deg. F. data, since such a large scatter is experienced. Further, we have never found stress cracking at room temperature (73 deg. F.) from any material that we have considered commercially for bottles. The theoretical time for a batch of bottles to stress crack can be calculated from the Larson-Miller equation (7) $K\text{-}T(20 + \log t)$

K = Larson-Miller parameter

T = temperature, degrees Rankine

t = cracking time of bottles in hours

While Figure 2 demonstrates stress cracking as a function of temperature for a selected resin made

according to optimum blow-molding practice, Figure 3 gives a broader spectrum, showing a range of molding powders. From Figure 3 it can be deducted that some molding powders can result in bottles that will crack at room temperature within a year. Although this extrapolation appears to be valid, it is unlikely that very many of the detergent bottles being made today exhibit such behavior.

These data are for bottles that are:

1. Molded according to good controlled practice.
2. Tested at one temperature only (not subjected to cycling).
3. Not subjected to the rigors of shipping, filling and of use.

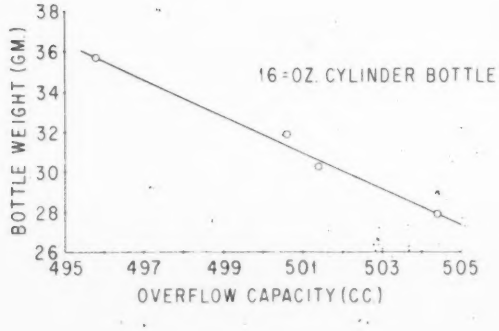
We have had no difficulty with environmental cracking in the field.

Before a material is blown into bottles at Plax, it is screened for many properties. One of the lesser-publicized tests is that for thermal embrittlement. With high-density polyethylene, thermal embrittlement at our test conditions occurs when an antioxidant (a) is not present, (b) is not present in sufficient quantity, (c) is not well dispersed or (d) has its action offset by some polymerization residual. We found that some early bottles made from first-available high-density polyethylene after six months' desk-drawer storage became egg-shell brittle. Fortunately, there is little or no polyethylene of such quality on the commercial market today.

The test for thermal embrittlement at Plax is as follows: a 20-mil section is compression molded, placed in a circulating-air oven at 165 deg. F. and checked periodically for pinch brittleness. A successful material must withstand 180 hrs. at this temperature without becoming brittle.

The tendency for thermal embrittlement is accelerated when high-density polyethylene is colored. Thus, sometimes it becomes a question of preferring certain pigments for this reason, or adding greater amounts of antioxidant. Further, pigments, by causing even slight thermal embrittlement and lessening the over-all tensile strength, accelerate environmental stress cracking. The final effects of a series of colorants cannot be theorized and Plax tests each new color carefully for the individual colorants as well as for the total effect.

FIGURE 4



One of the standard tests is to expose color disks for 40 hrs. in an Atlas Fade-Ometer. It is not uncommon to find that delicate pastel shades, or pinks, reds and sometimes even whites, are not light stable. We reject any color that does not pass this 40-hr. Fade-Ometer test for both light stability and brittleness. Each of these test disks is checked at 1, 10, 20 and 40 hrs. for color and for pinch brittleness. If the sample is brittle from the effects of the Fade-Ometer ultraviolet light, we insist that the color submitted be reformulated.

Each lot or shipment of incoming molding powder is checked by a raw-materials Powder Control Laboratory at each manufacturing plant, with standards, control and referee decisions originating from our research laboratories in Hartford. Each batch is checked for consistency of the following qualities: extrudability, blow-up, color, dirt, contamination, odor, gels and ability to treat.

Each manufacturing plant regularly conducts printability tests as well as stress-cracking tests. Stress cracking is conducted on commercial bottles at 140 deg. F., as described below under Test Methods, with bottles from each mold cavity being checked each shift. These tests are run normally for 48 hrs. and then if no cracking results, are continued for a total of five days on 25% of the samples. Any cracking during this period is investigated to determine cause. If there are any doubts, the bottles are re-tested and, if they crack again, the entire lot is rejected.

Ability of the bottles to accept inks is tested regularly in the plants by applying a nitrocellulose-base ink to the bottle and then checking ink adhesion by the pressure-sensitive-tape test.

One other test which we use as a screening agent for materials is impact testing of bottles, as described under Test Methods. Such impact testing does not correlate with Izod impact (or any other known standard impact test), but does coincide with melt index, flow, (8) molecular weight distribution and minimum wall thickness.

Design considerations

The design of any container is usually a compromise between one the artist would like and one the engineer must have for efficient and economical manufacture. The following six basic considerations are discussed from the engineering viewpoint:

1. After the engineer receives the artist's desired

container shape, together with capacity requirements, the first consideration is the net weight. This is a function of shape, capacity and use. In order to proceed with a complete container design, an estimated weight must be made, based on the above three factors. The trend for the high-volume users of high-density polyethylene containers has been to "light weight" as much as possible to keep price at a minimum. In these cases, the container acts mainly as a carrier. The container must, however, be sufficiently rigid to permit normal ease of handling by the consumer. Figures 4 and 5 illustrate typical weights as they are related to capacity for 16-oz. cylinder and 32-oz. Boston round bottles.

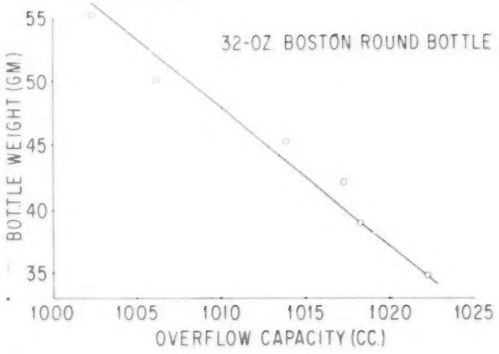
In addition, the container shape, and primarily the cross-sectional shape, influence the weight. A round cross section normally requires the least material, due to its geometry, and the distribution of material is most uniform. On departing from the round, the control of plastic distribution becomes more difficult. Thus, additional weight is added to compensate for the hard-to-reach areas and to provide rigidity to geometrically unsupported sections of the container.

2. The size and type of neck (finish) which will be used on the container is the second consideration. It can be one of many which are adaptations of the standards used in the glass industry and specified by the Glass Container Mfrs. Institute. Except for snap-on types of finishes, the resiliency of polyethylene has precluded the use of finishes other than those having screw threads. The threads usually are made with a buttress configuration with an approximate 10-deg. base angle to provide the maximum cap-holding force without the tendency for the cap to slip up and over the bottle threads and strip. Many different buttress shapes have been used in the industry. They can generally be divided into two classes—those that will accept closures which fit a GCMI finish and those that do not.

In all cases, a minimum of 360-deg. engagement between closure and finish is desirable. Without this amount of contact, the closure will lift or cock in the area of no contact when tightened and eventually strip. There are many commercial closures available made to fit a GCMI finish which do not provide a minimum of one turn of thread engagement even though the container has one or more turns of thread. This situation is found to be especially true of the "400" series caps.

A finish incorporating a pouring lip has had considerable use recently, especially in household-detergent containers. The GCMI "430" series finish for acid containers has proved to be ineffective in cutting off the stream of liquid at the completion of pouring. But the plastic-container finishes have

FIGURE 5



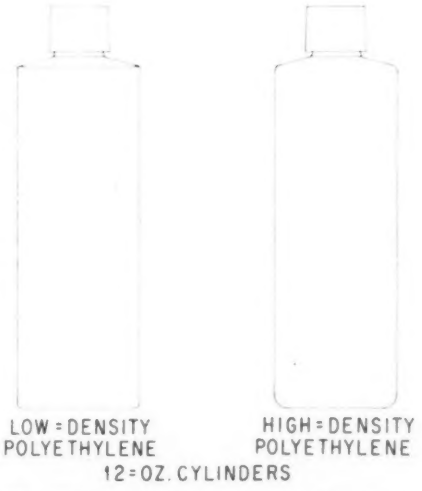


Figure 6. *Crystalline nature of high-density polyethylene requires softening of corner radii to eliminate failure from impact and stress cracking.*

succeeded in stopping dripping by the use of sharp-cornered pouring lips ranging from 0.015 to 0.040 in. thick. Below 0.015-in. thickness, molding becomes impractical and above 0.040-in. thickness the lip does not function properly for many liquids.

All containers are divided into two general groups of narrow neck or wide mouth. Wide-mouth containers generally present no problem in blow molding, except that by some molding methods the container may be excessively heavy in order to provide adequate rigidity to the finish. This is true with the expanded-tube method of blow molding where the container wall thickness (i.e., rigidity) is a function of the distance the tube expands. Narrow necks, on the other hand, present problems when the ratio between finish diameter and body diameter is large. The expanded-tube method offers the

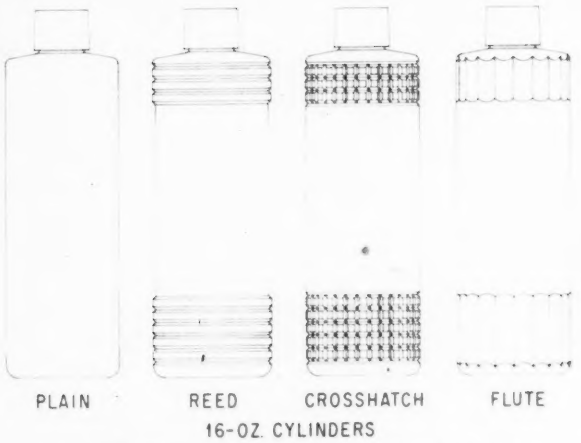


Figure 7. *Surface designs present possible points of stress concentrations. Any departure from the plain cylinder causes some loss in impact and stress-cracking resistance, as is shown in Table I.*

greatest latitude, but the finish is molded with flash on the parting line which must be removed as an added secondary operation.

The type of seal which the closure must make with the finish is obviously important in order to avoid leakage. The three most widely used methods of affecting a seal are a liner, internal valve and an annular ring. The liner is the common one used for years and one with which everyone is familiar. The internal-valve type utilizes the resilient nature of polyethylene. Here, a tapered cone section on the closure is forced into a slightly undersized inside diameter of the finish. The seal takes place either on the side wall of the neck opening or on the inside upper corner, or both. The annular-ring type of seal also makes use of the resiliency of polyethylene, for here a sharp V-shaped ring bites into the top surface of the finish. With a sharp edge on the seal ring, a high unit force is introduced which will compensate for any irregularity in the top flatness of the finish of the container.

3. Consideration in the use of radii or stress concentrations is important in container design. In the artist's attempt to have a "crisp" design, he may reduce corner radii to a minimum or eliminate them completely. The crystalline nature of high-density polyethylene necessitates softening of corners to eliminate failure from impact and stress cracking. To illustrate the difference between radii which can be used for low-density (0.920) polyethylene and those which must be used for high-density polyethylene, sketches of actual bottles are shown in Figure 6 for a 12-oz. cylinder for both the low-density and high-density materials.

Were these designs to be reversed, the sharp shoulder corner and small base-corner radius could cause the high-density bottle to stress crack and burst on heavy impact. Any other surface design must also be considered along with radii as possible points of stress concentration. Engineering studies have been made with 16-oz. cylinder bottles having cross hatch, flute and reed surface designs as shown in Figure 7, using production-type molds. The effect of impact and stress cracking were then determined with these bottles, as compared with a plain 16-oz. cylinder bottle having no surface design. The results of these tests are shown in Table I.

Table I: Results of impact and stress-cracking tests

Bottle (16 fl. oz.)	*Impact properties**	*Environmental stress-cracking resistance**
Plain	Very good	Very good
Reed	Fair	Very good
Cross hatch	Poor	Good
Flute	Good	Fair

*See "Test Methods."
NOTE: Test modified by use of very active stress-cracking liquid detergent.

4. The uniformity of plastic distribution on shapes other than round must be briefly mentioned in discussing container weight. The ability to control material distribution must be considered. The knowledge of the extent to which a container can depart from a round shape and still have reasonably good distribution is of prime importance at the initial stage of design. Blow-molding techniques have been devised which will control the distribution of plastic both vertically and horizontally. These techniques permit an appreciable amount of design flexibility without sacrificing function, strength and economy of manufacturing.

5. The way in which the bottle will be decorated or labeled must be regarded as a part of the basic container design. The most widely used methods of applied decoration are: (1) offset printing, (2) silk-screen printing, (3) hot-stamp printing, (4) paper labeling, (5) heat-transfer labeling.

At the present time, only cylindrical-shaped containers have been commercially offset printed. Present machinery allows printing as many as four colors in one pass. Because the thickness of ink applied is extremely thin, the most effective label is made on an opaque white container.

Silk screening can be done on any shape of container having surfaces made up of constant or concentric radii. A slight amount of compound curvature can be tolerated, but where possible, it is to be avoided. A very thick film of ink is applied by this process, so that the background color or the bottle color becomes unimportant.

Hot stamping is one of [*Continued on page 191*]

Antioxidant cellophane

Tests show that acceptable chemicals incorporated in nitrocellulose coating will greatly restrict the development of oxidative rancidity in high-oil-content foods.

*By R. Henderson, G. A. Wallace and R. H. McKillip**

Figure 1. *Organoleptic evaluation of rancidity development of oil spread on control and antioxidant cellophanes.*

The packaging of a food product is much more than the mere enclosing of a food in a container. It is a many-faceted problem including such factors as specific product protection, package durability, package appearance, suitability to retail display and consumer motivation. In the development of a new and improved packaging material, however, all of these factors become secondary to the first and most important—product protection.

Each individual food product, with its susceptibility to chemical change, loss of volatile flavor components, and changes in moisture and texture, presents a separate and isolated challenge to packaging. For any one food, the ideal packaging material would maintain the fresh taste and appearance of that food for a long and indefinite period of time. This ideal may never be reached, but every improvement in packaging materials which increases packaged-product protection is a step in the direction towards the ultimate achievement.

With such goals in mind, the Research & Development Dept., Film Div., Olin Mathieson Chemical Corp., has for some time directed certain of its activities towards the problem of oxidative rancidity in high-oil-content foods, particularly those of the "snack" industry. Such foods include potato chips, corn chips, nut meats, etc., which either have a high natural-oil content or are processed in oils.

All reputable processors of such foods take great care to use highly refined, fresh cooking oils. In addition, antioxidants such as butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA), propyl gallate (PG), etc., are added to the cooking oils to retard development of naturally occurring oxidative rancidity. Many processors use antioxidant salt to increase this type of protection. Even with such protection, however, the processing, storage and retail merchandising of snack foods is definitely limited by oxidative rancidity and the resulting off-flavors and odors in the packaged food.

* The authors are in the Film Div., Research & Development Dept., Olin Mathieson Chemical Corp., New Haven, Conn.

The use of antioxidants in the cooking oils during processing of snack foods is a generally practiced step in the operation. Antioxidants, however, are dissipated by the heat of cooking and must be continually added to the cooking vat to insure protection of the oil. Very little effective antioxidant, therefore, remains on the finished snack food to retard rancidity development during the period of merchandising and retail display.

The best place to supply protection against subsequent rancidity of the finished product, therefore, is in the final handling stage—namely, the packaging. The merit of this approach was strengthened by comments from the field which indicated that the largest percentage of off-odors and off-flavors in packaged potato chips arises from oxidative rancidity of a thin layer of oil spread on the inner surface of the package (1)†.

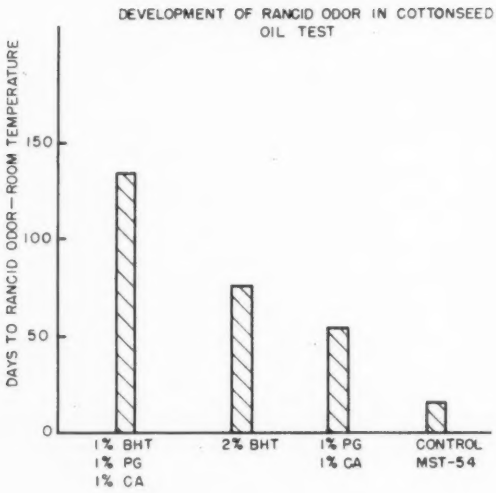
Development of an antioxidant-treated cellophane would greatly minimize this change.

Evaluation of antioxidants

The antioxidants chosen for testing were those most widely used in food processing and approved by F&DA. The list included BHT, BHA, PG, nordi-

† Numbers in parentheses identify References appended.

FIGURE 2.



hydroguaiaretic acid (NDGA), thiodipropionic acid (TDPA), dilauryl thiodipropionate (DLTP) and various commercially available combinations of these materials. In all cases, it was found that these antioxidants, singly or in combination, could be incorporated into the nitrocellulose lacquer used to coat standard cellophane. The amount of coating placed on the experimental film was carefully metered to give a coating weight identical with that on film used to package snack foods in the field.

Initial test to determine antioxidant properties of the various combinations is described as follows:

Oil test. A 2¼-in. circular sample of test film (containing antioxidant) is cut and 1 ml. of fresh cottonseed oil is spread uniformly over the film surface. The sample is then placed in the bottom of a clean, odorless 16-oz. screw-top glass jar and the jar cover is firmly screwed in place. The jar is then stored at appropriate conditions and the odor within is noted until a definite rancid odor has developed. A similar test is conducted using control film—in this case 300 MST-54 cellophane.

Figure 3. *Measurement of rancidity development of oil spread on cellophane by use of the Warburg apparatus, which determines oxygen uptake.*

Table I: Development of rancid odor in cottonseed oil

Film type	*Days storage to rancidity, room temperature*
300 MST-54 (control)	11
2% DLTP	11
2% TDPA	25
5% DLTP	17
5% TDPA	25

Table II: Development of rancid odor in cottonseed oil

Film type	*Days storage to rancidity, room temperature*
300 MST-54 (control)	12
1% NDGA	12
1% PG, 1% CA	54
2% PG, 2% CA	62

A series of oil tests was conducted on various antioxidant films with concentrations of antioxidants varying from 1% to 10%. These percentages represent the weight of antioxidant based on the solids content of the nitrocellulose coating on the cellophane. Table I indicates the days to rancid odor for film containing 2% and 5% DLTP and TDPA.

The data in Table I show that the experimental film displayed antioxidant properties, particularly when using TDPA. Additional tests with these two antioxidants, however, showed that increasing the levels up to 10% did not significantly increase antioxidant activity and that in equal concentrations they were not so effective as other antioxidants examined in further studies.

Table II shows the results of the oil tests on films containing 1% NDGA, 1% PG plus 1% citric acid (CA), and 2% PG plus 2% CA, respectively.

As the data in Table II show, there was no antioxidant activity evidenced by use of 1% NDGA in the cellophane. Furthermore, the film containing the 1% NDGA possessed a light-brown color which became darker at higher concentrations. This color would be unacceptable in the field and, consequently, no further work was done with this compound. The antioxidant effectiveness of the PG-CA combination, however, was quite encouraging. The

citric acid was added for its synergistic role with PG, plus its usefulness as a chelating agent to minimize any combination of PG with trace metals. At this point the 1% PG-1% CA mixture was considered the most promising in antioxidant properties. The doubling of this level, to 2%, did not sufficiently lengthen the time to rancidity development to warrant the economics of a higher concentration of the mixture.

The next series of antioxidants screened included BHA, BHT and Tenox VI (2) a commercially available mixture of BHA, BHT, PG, CA, vegetable oil and propylene glycol. The results of oil tests on cellophane films containing these various compounds are presented in Table III.

Table III indicates that 1% to 2% BHT in the film gave the longest protection against rancidity for any single antioxidant. The 5% BHT level, all three BHA levels and the Tenox mixtures gave rise to a definite objectionable phenolic odor in the test jars. Samples of films containing these concentrations were enclosed in separate containers (no oil) and evaluated for odor versus standard 300 MST-54. Again, in every case, a phenolic odor was noted which was objectionable and which would certainly contaminate any product packaged in such film. This fact, therefore, limited this series to the 1% to 2% BHT concentrations as the only ones useful for this type of packaging application.

Food processors and suppliers of antioxidants have long known of the synergistic role of antioxidant combinations in retarding rancidity longer than equal, single concentrations of any one of the components. To evaluate this factor and to gain the advantage of the two antioxidants proved to be most effective, BHT and PG plus CA were added in 1% concentrations to a test film. This film was evaluated by the oil test and the results are shown in Table IV and also in Figure 2.

The data for the 1% BHT, 1% PG, 1% CA mixture vividly demonstrate the synergistic antioxidant activity of the combination. Rancidity development of oil on the test film was deterred 119 days beyond that on the control film, MST-54.

Oxygen uptake. To this point, the only measurement of antioxidant activity of the test films was by the "oil test." It was decided to evaluate oxygen uptake of fresh cottonseed oil in contact with the test film by use of the Warburg apparatus (3). This apparatus, widely used in biochemical respiratory experiments, would indicate a direct and accurate measurement of oxidation of the cottonseed oil. The apparatus is shown in Figure 3 and data from a test on antioxidant film containing 1% BHT, 1% PG, 1% CA are given in Table V.

The results in Table V show, on the average, an

FIGURE 4.
ODOR RANKINGS FOR POTATO CHIPS IN ANTIOXIDANT-CELLOPHANE VERSUS STANDARD MST-54
ROOM STORAGE 70°-80° F.

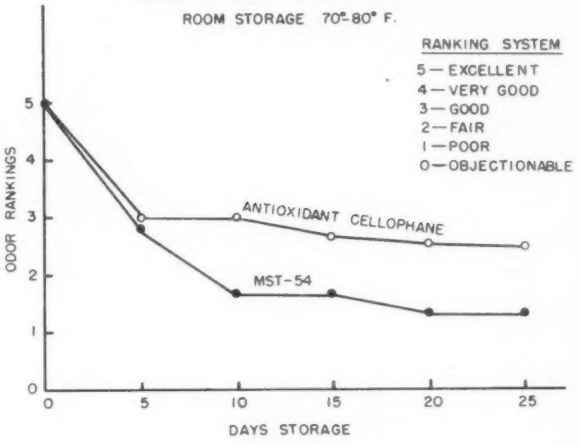


FIGURE 5.
TASTE RANKINGS FOR POTATO CHIPS IN ANTIOXIDANT CELLOPHANE VERSUS STANDARD MST-54
ROOM STORAGE 70°—80° F.

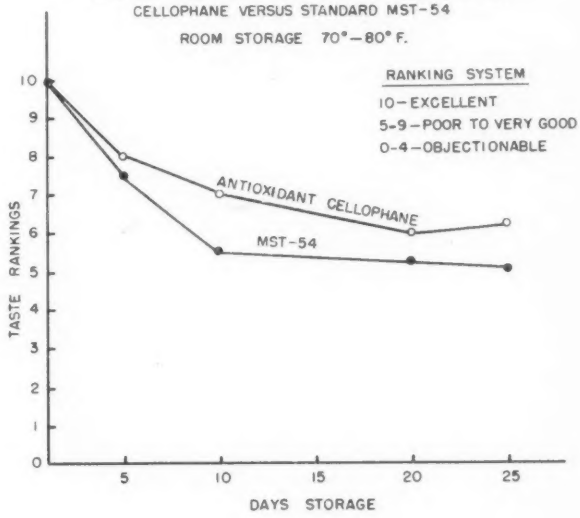


Table III: Development of rancid odor in cottonseed oil

Film type	*Days storage to rancidity, room temperature*
300 MST-54 (control)	12
1% BHT	54
2% BHT	more than 63
5% BHT	more than 63
1% BHA	51
2% BHA	62
5% BHA	62
5% Tenox VI	more than 63
10% Tenox VI	more than 63

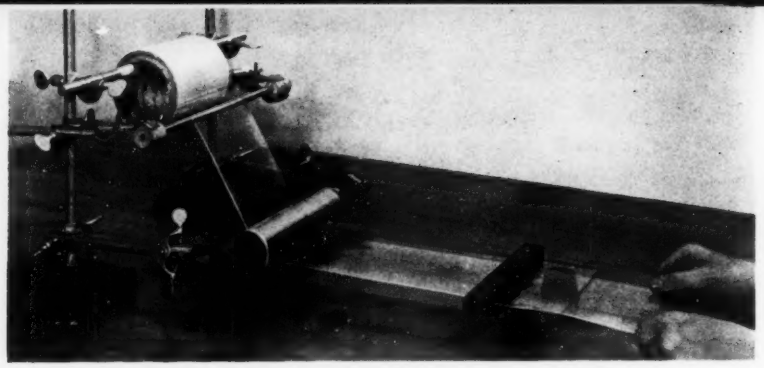


Figure 6. *Laboratory apparatus designed for coating antioxidant cellophane by hand.*

uptake of O_2 approximately five times greater by oil on MST-54 than by oil on the test film. This increased O_2 uptake indicates a much greater potential for oxidative rancidity in the cellophane film which is now being used by members of the snack industry than for the antioxidant cellophane.

Product testing

As stated previously, the most important factor in developing a new packaging film is improvement of packaged-product protection. Since the most widely consumed snack food is potato chips, fresh chips containing the normal antioxidant level from processing were purchased and packaged in the test film and in the MST-54 control standard. The bagged chips were stored at room temperature (70-80 deg. F.) and exposed to fluorescent light to simulate retail conditions. Periodically, taste and odor panels were conducted with trained experts to compare product acceptability in the two film types. The averages obtained in a series of panel tests are shown in Figures 4 and 5.

The final properties of an antioxidant cellophane to be compared with the presently used MST-54 are the physical properties of heat-seal strength, blocking, water-vapor permeability, coefficient of friction and impact strength. Test comparisons of the two types have shown the antioxidant cellophane to be superior or equal in every factor to the control film.

Table IV: Development of rancid odor in cottonseed oil

Film type	*Days storage to rancidity, room temperature*
300 MST-54 (control)	15
1% PG, 1% CA	54
2% BHT	76
1% BHT, 1% PG, 1% CA	134

Table V: O_2 uptake by cottonseed oil as measured by Warburg apparatus

O_2 uptake (rl/hour)	*Antioxidant cellophane*	*MST-54*
Maximum	3.1	14.8
Average	2.3	11.0
Minimum	1.7	7.5

Summary

Experimental studies have shown the feasibility of incorporating a combination of F&DA-acceptable antioxidants into cellophane to improve the consumer acceptance of packaged snack foods. The laboratory methods used to measure the effectiveness of antioxidant cellophane in deterring rancidity development in cottonseed oil and packaged potato chips have been outlined.

The experimental work which has been described in this paper, coupled with extensive field trials, has led to the commercial introduction of an antioxidant cellophane, Olin OF-20.

References

1. Du Vernay, G. L. Proceedings of the Production and Technical Division Meetings of the National Potato Chip Institute, Jan. 21, 1957.

2. Tenox Antioxidants for More Effective Food Packaging Materials. Information Bulletin published by Eastman Chemical Products, Inc., (1957).

3. Umbreit, W. W., Burris, R. H., and Stauffer, J. F., *Manometric Techniques*, Burgess Publishing Co. (1957).

4. Bentz, R. W., "Antioxidants for Food Papers," MODERN PACKAGING, 27 (1), p. 141 (1953).

5. Musher, S., U. S. Patent 2,233,143, assigned to Musher Foundation, Inc., (1941).

6. Musher, S., U. S. Patent, 2,233,141, assigned to Musher Foundation, Inc., (1941).

7. Musher, S., U. S. Patent 2,233,142, assigned to Musher Foundation, Inc., (1941).

8. Maclay, W. D., "Pectinate Films," MODERN PACKAGING, *22* (1), p. 157 (1948).

9. Carlin, G. T., "Packaging Materials Which Resist Rancidity," *Food Industries, 20*, p. 1750 (1948).

10. Kraybill, H. R., and Dugan, L. R., Jr., "Antioxidants, New Developments For Food Use," *Agricultural & Food Chemistry*, 2, p. 81 (1954).

11. Anonymous, "Antioxidant Food Board," MODERN PACKAGING 29 (5), p. 188 (1956).

12. Doyle, M. E., Sullivan, R. D., and Booth, H. G., "Use of Antioxidant in Paperboard," MODERN PACKAGING, 29 (11), p. 119 (1956).

13. Caldwell, E. F., and Shmigelsky, S., "Antioxidant Treatment of Paperboard for Increased Shelf Life of Packaged Dry Cereals," *Food Technology, 12*, p. 589 (1958).

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Distortion of coated trays

Q: *One of our customers is reporting problems with a plastic-coated tray for packaging fresh meats. We make the tray by heat sealing polyethylene-coated bleached kraft board. The trays have slightly tapered sides and are shipped in nested stacks. They are hand filled with the product, then cellophane overwrapped by an automatic machine.*

The problem we have encountered is due to the distortion and buckling of the trays, which can result in machine jams or bad wrapping in the machine.

Is there any way that we can stabilize this material or reduce the distortion of the trays?

A: The trays are distorting and buckling because of changes in the moisture content of the bleached kraft board. Plastic-coated or laminated paperboards are flat and undistorted only at a certain moisture content. The actual value for this moisture content will depend on the conditions prevailing during the plastic-coating process and the type and weight of the coating. Changes in the moisture content of the paperboard from the optimum value will cause the curling and buckling problem you are experiencing and its severity will depend on the magnitude of the moisture change.

In your case, the coated paperboard trays are being stored and used in a high-humidity atmosphere in a packing plant. During this storage period they are picking up moisture in the nested stacks and, when they are removed from the stacks and packed with the fresh meat, they rapidly buckle and distort. There would be ample time for this to take place if the filled trays were hand packed and accumulated before they are placed into the wrapping machine.

The degree of distortion of the trays can certainly be reduced—and perhaps eliminated as a problem—by coating the paperboard at the highest practical moisture content. Also, steps should be taken to minimize moisture loss during roll storage and coating, as well as in tray making.

Nested trays should also be put in a moistureproof barrier and not stored for long periods in extremes of humidity. You should also be sure that the trays go into the wrapping machine as quickly as possible after they have been taken from the stacks and filled with the product.

It is a complex problem to control or limit all of the many variables that are operating to cause distortion of an unsymmetrical material of this type, especially when in the form of a tray.

Perhaps it would be beneficial if the material's exposed paperboard side were lightly surface waxed. Such waxing could retard the rate of moisture change, but the amount of wax must be limited and controlled so as not to affect the strength of the cellophane wrap's heat seals.

More on training mechanics

Q: *Your comments about training an elite group of maintenance mechanics are interesting (Editor's note: see Questions & Answers, MP, Nov., 1960, p. 140) but to what department are these men responsible—production or engineering? And wouldn't such "elite" status make these men feel that they are too superior to perform the more common maintenance jobs of machine operation and clean-up?*

A: In the example cited, the super-trained maintenance men report to the plant engineer and they do clean their machines. But they do not operate packaging machinery, a task which is delegated to women operators working under the production department. However, what I believe you really mean is: Where *should* plant maintenance men report?

There are two schools of thought on this subject, but we believe the majority of modern management men are in favor of maintenance men reporting to engineering instead of production.

There are at least three good reasons why management men seem to take this view. They are:

1. It is hard to separate the functions of preventive maintenance, installation of new equipment and major overhaul of packaging machinery (traditionally in the province of the plant engineer) from the more routine, but no less mechanical, tasks of machine change-over, adjustment and minor maintenance during machine operation.

2. Splitting the authority for maintenance reduces the flexibility of the men in this packaging function and prevents the rapid shifting and concentration of skilled mechanics at trouble spots on a line.

3. A good mechanic can handle several packaging lines if he is not pinned down with the responsibility of operating a specific packaging machine or line—a job that can be accomplished a great deal more economically by an operator.

These facts make a strong case for placing maintenance under engineering. However, there are certain plants where union contracts make such a program impossible. Mechanics cannot be rotated to gain advanced experience and in the case of emergency mechanical repairs, or set-up and production jobs that require overtime, mechanics must be chosen to handle the job on the basis of seniority, not experience. In such plants, the maintenance system is frequently organized by department or by line, very often under the production manager.

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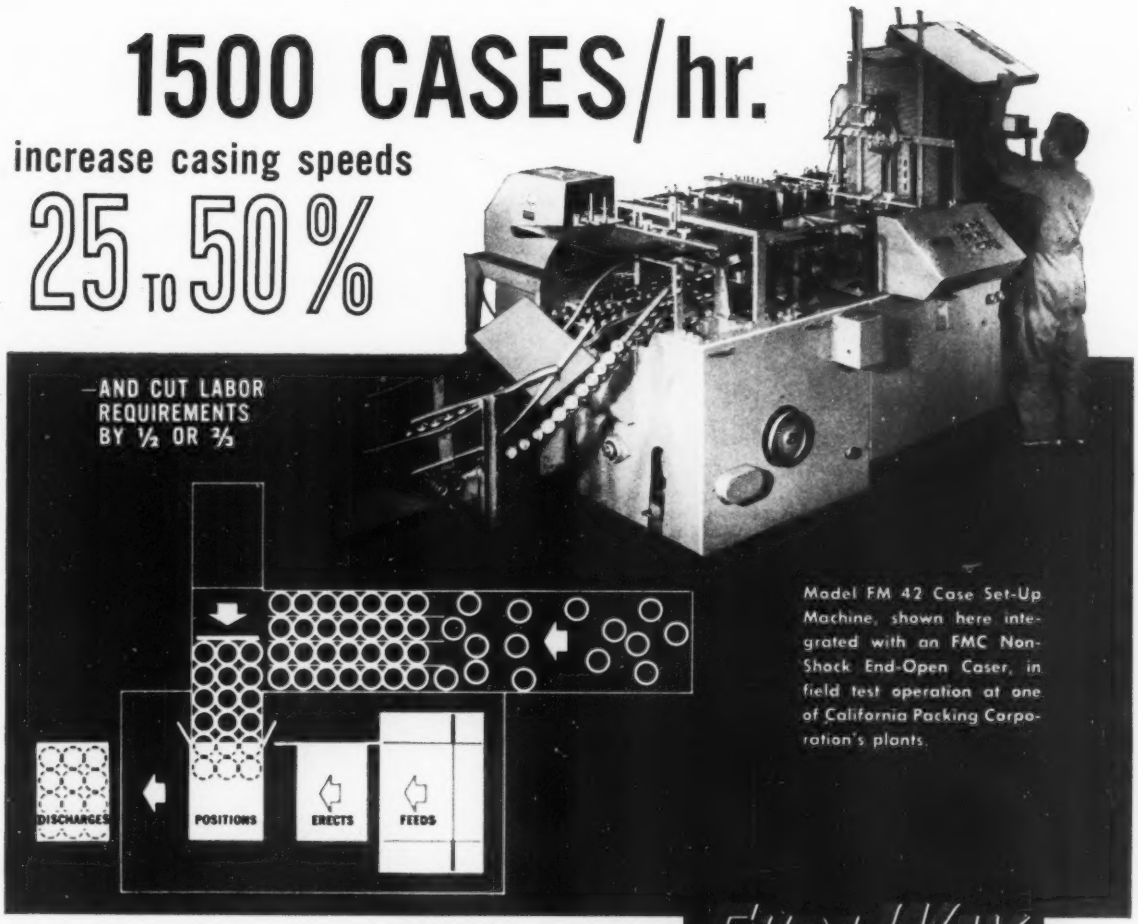

Model FM 42 Case Set-Up Machine, shown here integrated with an FMC Non-Shock End-Open Caser, in field test operation at one of California Packing Corporation's plants.

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Plants & People

Thomas E. Cathcart has been named gen. mgr. of sales for the Boxboard & Folding Carton Div. of **Continental Can Co.**, New York. He succeeds **Wray Callaghan**, who is retiring after 44 years of service to Concan and the former Robert Gair Co. **Richard T. Clark** succeeds Mr. Cathcart as folding carton sales mgr. for the div. Mr. Cathcart, who joined Robert Gair in 1946, served successively as folding carton salesman, district sales mgr. and asst. regional sales mgr. Mr. Clark started with the Robert Gair organization in 1949.

Cathcart

Clark

P. M. Grieve, formerly v.p. and gen. mgr., has been elected pres. of **Rap-In-Wax Co.**, Minneapolis. He succeeds **John J. Ahern, Jr.**, now chairman of the board. Mr. Ahern had been pres. since 1954. The company reports that the executive changes have been made to meet the demands created by Rap-In-Wax's growth and diversification. The company's recent acquisition of **National Packaging Corp.** marks its first step out of the field of purely flexible packaging.

An agreement has been drawn up for the merger of **The Mengel Co.** into **Container Corp. of America**, Chicago. Mengel, of Louisville, Ky., manufactures corrugated containers. Details of the merger include an exchange ratio of two shares of Container Corp.'s common stock for each of Mengel's common stock shares.

Ekco-Alcoa Containers Inc., Wheeling, Ill., reports a major change in its market organization aimed at expanded sales and service activities. **John Carlile** has been named gen. mgr. of mktg. services. Four regional sales mgrs. also have been appointed. They are: **Arthur M. Moses**, Eastern region, Long Island City; **Thomas W. Leo**, Central region, Chicago; **Jack A. Fox**, Western region, San Francisco, and **Lloyd H. West**, Southern region, Atlanta.

F. J. Stokes Corp., Philadelphia, has established a new packaging-equipment dept. within its press div. **Larry C. Morehouse** has been named to head the new setup, established to develop the market for production machinery for container products.

New director of corporate packaging development for **General Foods Corp.**, White Plains, N.Y., is **W. H. Enzie**. Mr. Enzie has worked in packaging research and development at GF for the past 12 years, and formerly headed that activity for the Birds Eye Div. He is a member of the **Packaging Institute** and **Institute of Food Technologists**.

St. Regis Paper Co., New York, has begun construction of a $3 million technical center at Clarks-town, N. Y. In addition to the research and development dept., technical services and control and technical planning depts. will be located at the center. Programs to be undertaken will relate to materials utilization, printing papers, kraft pulp, paper and board, bags, packaging, plastics and forest products.

As new director of mktg. research of **Riegel Paper Corp.**, New York, **Robert R. Thek** will coordinate marketing research for all branches of the company's sales operations. The Specialty Products Div. of Riegel Paper has appointed **F. M. Jennings** to the post of Eastern special accounts sales mgr. of packaging materials. He succeeds **W. M. Riegel**, now mgr. of merchant and industrial sales.

Henry L. Ford has been elected pres. of **Eastman Chemical Products, Inc.**, Kingsport, Tenn. He succeeds **Dr. L. K. Eilers**, who becomes vice chairman of the board of directors. Mr. Ford, a v.p. of both the **Tennessee Eastman** and **Texas Eastman** divs. of **Eastman Kodak**, began his association with Tennessee Eastman in 1922. He was appointed mgr. of chemical sales for the company in 1931 and became director of purchases in 1941. Dr. Eilers has been with Kodak since 1934.

Ford

Bernard H. Lippin is newly elected pres. of **Lynch Corp.**, Anderson, Ind. He succeeds **Will Freeman**, who continues as chairman of the board.

Formation of a new div. for the design, development and manufacture of plastics machinery has been announced by **The Producto Machine Co.**, Bridgeport, Conn. The new Plastics Machinery Div. has introduced its line of blow-molding and sheet-forming machines and accessory equipment. Blow-molding models are being offered in a wide range of capacities, handling parts as large as 55-gal. drums.

W. Ward Willett has joined the sales development of **The Cryovac Co. Div., W. R. Grace & Co.**, Cambridge, Mass. Mr. Willett, who has been an independent packaging consultant for several years, will develop new applications for the company's films in non-food fields. Before setting up his own service, Mr. Willett was advtg. and sales prom. mgr. for **Plax Corp.**, and, later, mktg. mgr. for the former **Bradley Container Corp.** He will make a special study of possible Cryovac shrink-pack applications.

James Gay Gordon, III, has been named supv. of aerosol programs in the Freon Products Div. of **E. I. du Pont de Nemours & Co.**, Wilmington, Del. In the newly created assignment, Mr. Gordon will be responsible for developing special programs to provide technical and other assistance to commercial users of the div.'s aerosol propellants. **Francis E. Cooper** has succeeded Mr. Gordon as sales supv. in the div.'s Eastern district office, New York.

The newly created post of v.p. of container manufacturing for **Thatcher Glass Mfg. Co.** has been assumed by **Reginald L. Burd. John T. Pollock** has been named administrative mgr. of the container products division.

Brockway Glass Co., Brockway, Pa., has entered the blown plastic-bottle field. The glass-container producer has opened a plant in Boston for the production of blown plastic bottles on a machine of its own design. Brockway recently purchased **Celluplastic Corp.**, Newark, a manufacturer of rigid and flexible plastic containers.

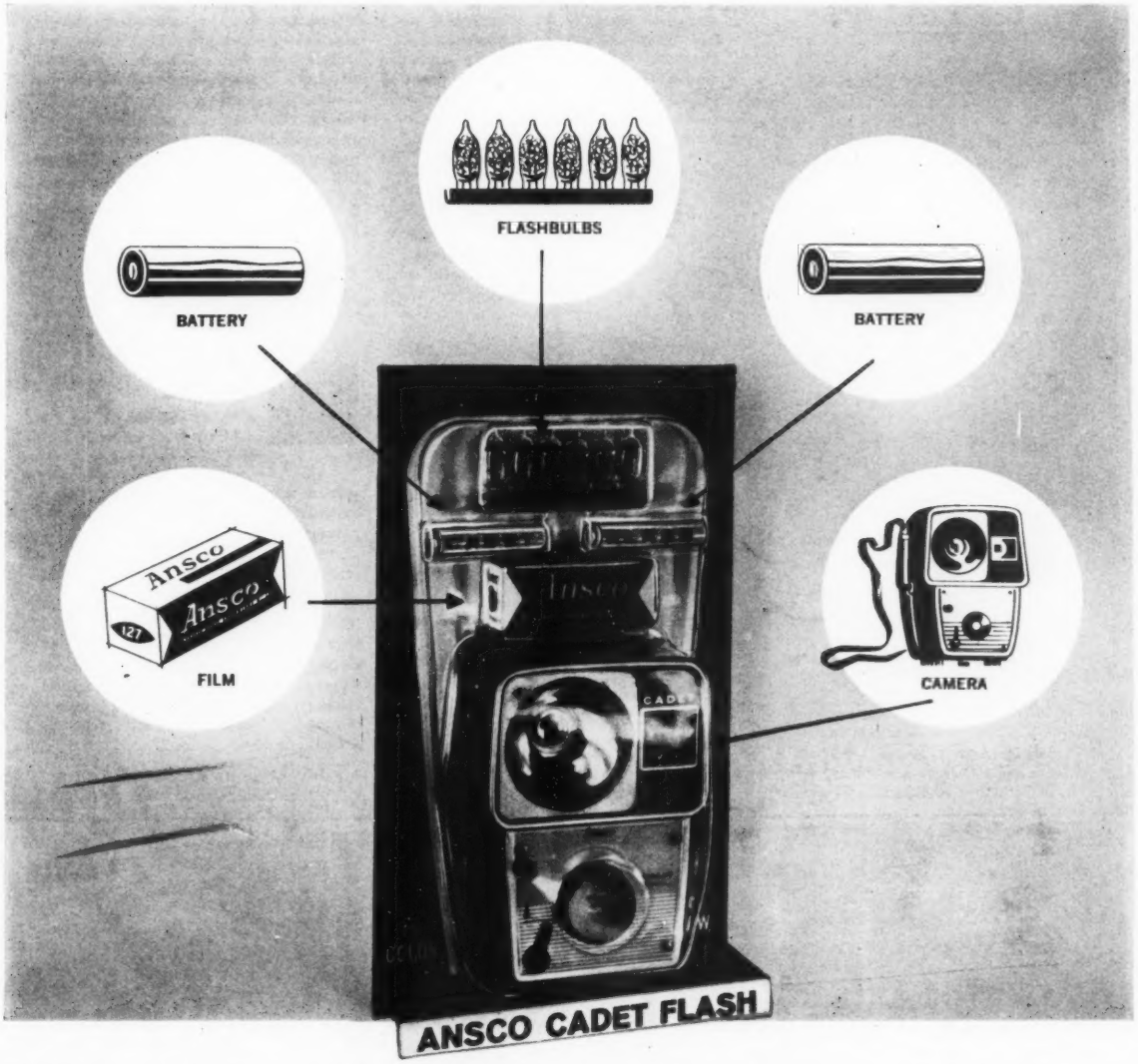
Milprint, Inc., Milwaukee, has appointed **Ward Casper** as mgr. of its mktg. research dept. From 1957 to 1959, Mr. Casper was a faculty member of the University of North Dakota and a member of the institution's Bureau of Business & Economic Research.

The appointment of **Frederick N. Collins** as director of new product development has been announced by **Dyna-Foam Corp., sub. Sun Chemical Corp.**, Ellenville, N. Y. Mr. Collins, who comes to the company from **Dow Chemical Co.**, is responsible for development of new Dyna-Foam plastic products, including industrial packaging materials, wraps for perishables and insulation materials.

C. G. Bensinger, exec. v.p. of **Owens-Illinois Glass Co.**, Toledo, has been assigned new responsibility in the management of the company's administrative and operating affairs. He has become a member of the management committee of each of O-I's nine operating divs. and will continue as a member of the corporate planning committee. Mr. Bensinger has been with the company since 1931. **R. H. Mulford**, an O-I v.p., has been given duties relinquished by Mr. Bensinger. These involve operations of the Glass Container

Bensinger

Mulford



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Plants & People [*Cont'd*]

Div.-East, the Pacific Coast Div. and the Closure and Plastics Div. Mr. Mulford formerly headed the **Kimble Glass Co.** sub. In that capacity, he has been succeeded by **W. J. Stewart. Paul B. Stewart**, gen. mgr. of **O-I International's** Venezuelan glass container plant, has been named a v.p. of O-I International. He is succeeded as gen. mgr. in Venezuela by **Dexter W. Childs.**

James P. Measday has been promoted to marketing director of **Ivers-Lee Co.**, Newark, N. J. He will be responsible for formulation of over-all policy in connection with the unit-packaging company's sales, merchandising, advertising and public-relations programs. Mr. Measday joined Ivers-Lee in 1948, became sales mgr. in 1955 and gen. sales mgr. in 1957. In 1959, he became advtg. mgr. **Richard W. Miller**, former field sales mgr., has been named sales mgr. of the company.

Measday *Miller*

The San Francisco packaging firm of **Charles J. Schmitt Co.** has been purchased by **Andre Paper Box Co.** of San Leandro, Calif. The move, resulting in further diversification of Andre's activities, arranges for retention of all Schmitt employees and the operation of the company as a wholly owned div. of Andre. Both firms make folding boxes. **Mark Sanford**, a v.p. and director of Andre, will be pres. of Schmitt. He succeeds **Ralph Comstock.**

In his new post as product mgr. for **Bostitch, Inc.**, East Greenwich, R. I., **Loren K. Grimes** will work to coordinate all phases of product research, development engineering and initial production of new products. To tie up product line improvements with Bostitch marketing objectives, he also will direct field engineering activities.

Thomas W. Englert has been appointed to the new post of director of market research of **Packaging Corp. of America**, Evanston, Ill. He will study the market potential for a wide range of new products under development at the company's research and development center in Grand Rapids, Mich.

Andre Paper Box Co., San Leandro, Calif., has appointed **Frank H. Helmholtz** as sales mgr. He was formerly asst. merchandising mgr. of the dairy packaging div. of **Fibreboard Paper Products Corp. J. Layton Riley**, chairman of the board, has been elected v.p. and treas. **Arthur J. Loesch**, v.p. and director of sales, has been elected to the board of directors.

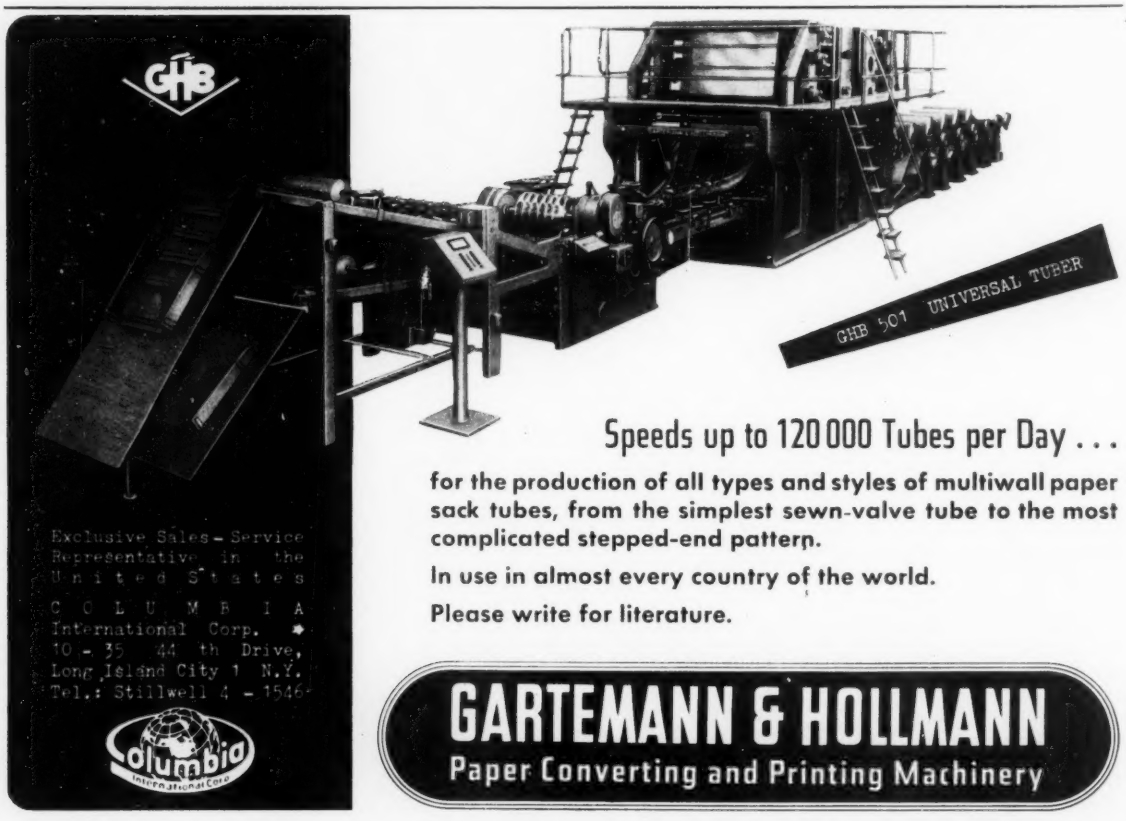
S. Curtis & Son, Inc., Sandy Hook, Conn., has acquired the **Valley-National Corp.** of Milldale, Conn. Valley-National, a producer of thermoformed plastic packages and packaging components, will be operated as a wholly owned sub. of Curtis. Formerly specializing in the design, printing and production of folding cartons, displays and other types of paperboard packaging, Curtis is now making its patented "See-Shell" Pack —a blister-type plastic and paperboard package.

Ennis P. Whitley, v.p. for distribution of **The Dobeckmun Co.**, Cleveland, a div. of **The Dow Chemical Co.**, has retired after 16 years with the company. A v.p. for the past nine-and-one-half years, Mr. Whitley joined Dobeckmun in 1945 as gen. sales mgr. Under his direction, and prior to the merger with Dow in 1957, Dobeckmun's total sales volume increased by more than 400% and the company's line of products expanded into new marketing areas. He played a major role in the introduction and marketing of **Lurex** metallic yarn.

Whitley

John Joseph Phelan is now located at the Lawrence, Mass., plant of **Mead Packaging, Inc., div. of The Mead Corp.**, following his promotion to director of creative packaging for the company. He was formerly in charge of creative packaging at the company's Atlanta facility.

A newly integrated finishing department for filling custom roll stock orders of



Speeds up to 120 000 Tubes per Day . . .

for the production of all types and styles of multiwall paper sack tubes, from the simplest sewn-valve tube to the most complicated stepped-end pattern.

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Paper Converting and Printing Machinery

packaging materials has been put into operation by **The Dobeckmun Co.**, Cleveland, a div. of **The Dow Chemical Co.** Under the supplier's new system, materials are handled on a shipping unit basis which is said to eliminate delay in accumulating orders and to minimize the amount of material handling required for the operation.

Tiernan

New mgr. of packaging films sales development for **The Goodyear Tire & Rubber Co.**, Akron, O., is **J. J. Tiernan.** Formerly a member of the firm's Akron packaging films development staff, Mr. Tiernan began his Goodyear career in 1946. Named New York Pliofilm field rep. in 1948, he became a general products rep. there the following year. He assumed his most recent post in 1955.

The appointment of **L. J. Sinnott** as gen. mgr. of special products has been announced by **Visking Co., div. Union Carbide Corp.**, Chicago. The new special-products group will concentrate on developing new uses and markets for plastic-film products.

Diversified facilities, including both thermosetting and thermoplastic equipment are provided by **Roth-Pak, Inc.**, a newly formed manufacturing and marketing company. The new firm will specialize in the production of closures and fitments for all container types for the cosmetic, pharmaceutical, food and industrial fields. Emphasis will be placed on research and development, according to **Robert A. Roth**, founder and pres. of the new firm, with offices at 11 W. 42 St. in New York.

Roth

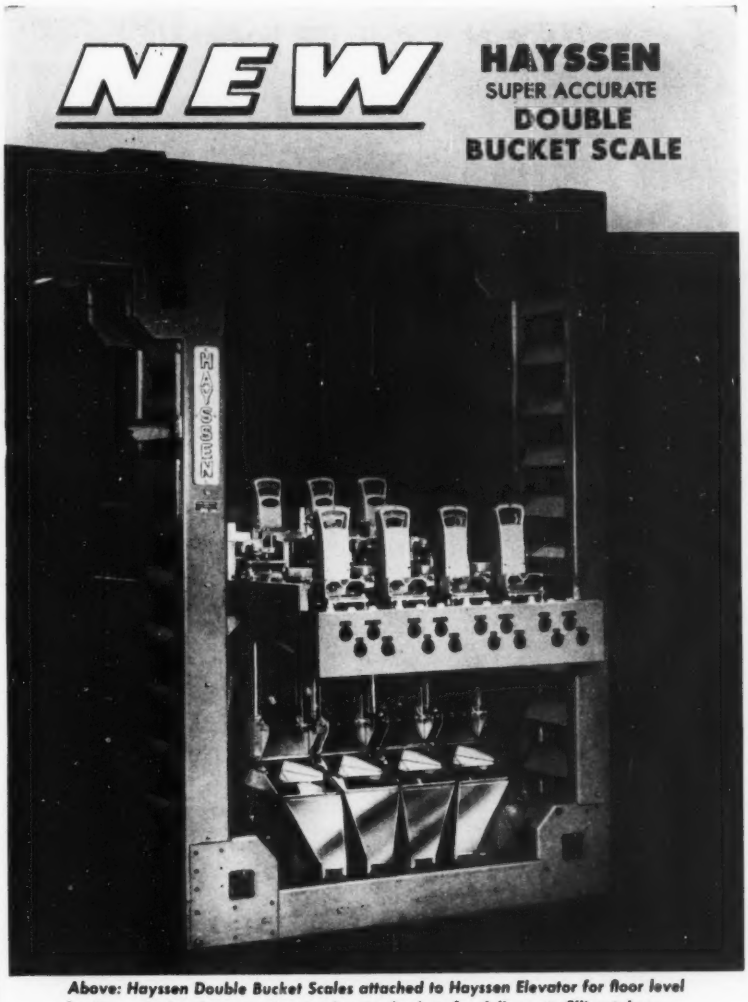
M. D. Ford has been named to the newly created position of gen. mgr. of mfg. services for **Armstrong Cork Co.**, Lancaster, Pa. He will be responsible for industrial engineering, production planning and quality control, formerly under the jurisdiction of **C. F. Hawker**, retired v.p. for manufacture.

Stanley M. Hopkins has been elected pres. and a director of **National Can Corp.**, Chicago. He succeeds **J. B. Wharton, Jr.**, recently resigned. At the same time, **Robert Stuart, Harry N. Eidswick** and **Frank O'Brien, Jr.**, were elected to the post of v.p. Mr. Hopkins has been with National Can since the company acquired Pacific Can, of which he was v.p. in charge of sales, in 1955. He has served at National as asst. to the pres., v.p. in charge of the Pacific Div., and most recently, as asst. to the chairman.

Hopkins

Inta-Roto Machine Co., Richmond, Va., has advanced two technical and sales executives as part of an expansion pro-

[*Continued on page 141*]



Above: Hayssen Double Bucket Scales attached to Hayssen Elevator for floor level feeding. Scales dump product to elevator buckets for delivery to filling tubes.

OUTPERFORMS ALL OTHERS

An entirely new principle has been developed to make the new Hayssen Double Bucket Scale the most accurate net weight scale feed in the industry. Rugged, easy to adjust scales, two each for each head, can be floor mounted for convenience.

- **DOUBLE WEIGHING** — Bulk charge is weighed at top scale, then transferred, slightly underweight, to second scale. Dribble trays feed second scale to bring charge to proper weight before dumping to filling equipment.
- **ONE-PIECE ACCURACY** — Extended dribble trays, each 30" long, allow one-piece feeding for final weighing. Packages can never be underweight.
- **FULL CYCLE FEEDING** — A full filling cycle is allowed for both bulk charge feeding and dribble feeding, thus allowing accurate weighing at greater speeds.
- **AVAILABLE FOR ALL HAYSSEN COMPAK MACHINES** — The new Double Bucket Scale can be attached to any existing Hayssen Compak Packaging Machine. It is available for both single tube and double tube machines.

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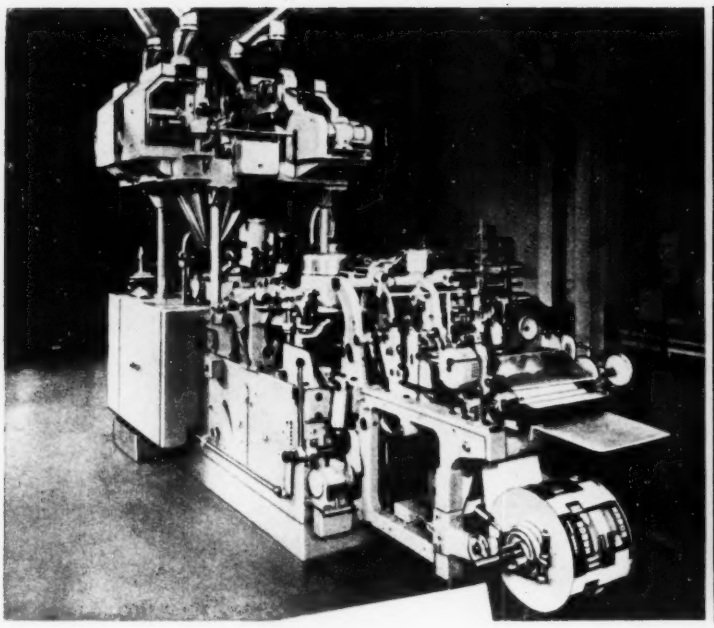

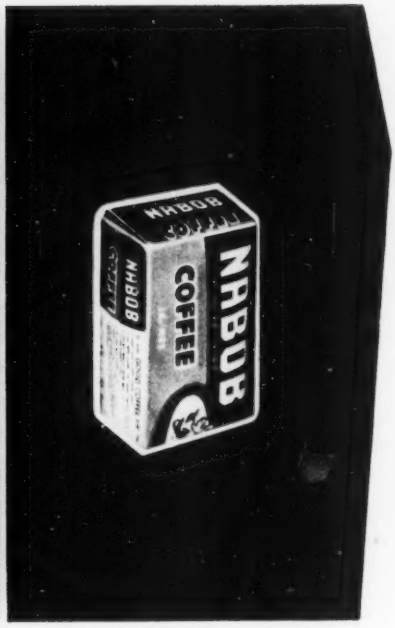

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Director of Manufacturing

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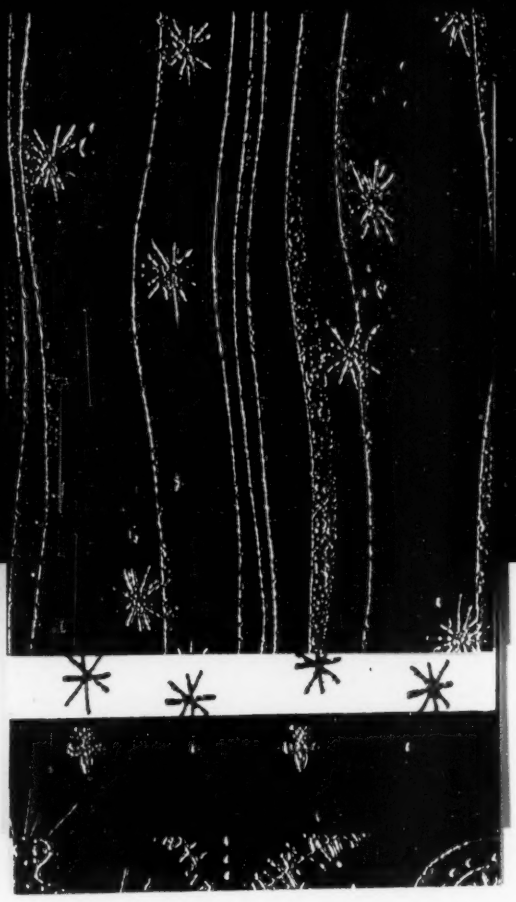

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Plants & People

[*Continued from page 137*]

gram. **Lawrence H. Haskin, Jr.,** has been named technical director of the company. He has been with Inta-Roto since 1959. **Albert A. Thompson, Jr.,** is the new sales manager.

Three key assignments in plastics sales management have been announced by **The Dow Chemical Co.,** Midland, Mich. **Corliss F. Cummins** is now asst. to the sales mgr. of the Plastics Dept., with additional responsibility for special projects. **M. H. P. Morand** succeeds Mr. Cummins as mgr. of molding materials sales. **John E. Donalds,** former plastics district sales mgr. in Detroit, has been named mgr. of coatings sales, succeeding Mr. Morand.

Cummins *Morand* *Donalds*

A process of forming a seamless liner from raw plastic in a container by air pressure, vacuum or the filling force of the product itself is being developed for commercial use by **Inpak Systems,** New York. The process, called Plastisac, has been patented by **American Viscose Corp.** Suggested commercial uses for the Plastisac liner include: lining paperboard containers for liquid detergents, distilled water and motor oil; packaging ice cream, frozen foods and juices, and protecting such grease-containing products as lard and cake mix from wicking.

Robert J. Leander has been elected pres. of **Mystik Adhesive Products, Inc.,** Chicago. He succeeds **Russell J. Leander,** founder of the company, who has been elected chairman. **Robert D. Smith** has been named exec. v.p.

Thayer

The **Metro Glass Div.** of **National Dairy Products Corp.,** Jersey City, has named **John W. Thayer** as mktg. mgr. Formerly gen. sales mgr. of the **Hazel Atlas Div.** of **Continental Can Co.,** Mr. Thayer will organize and direct Metro Glass' new marketing dept. Prior to his Hazel-Atlas association, Mr. Thayer was Eastern regional sales mgr. for **Owens-Illinois Glass Company.**

At a directors' meeting of **St. Regis Paper Co.,** New York, **Thomas A. Hewson** was elected asst. v.p. of technology. He will administer packaging, research and technical services.

Stig B. Holmquist has joined the special projects section of the general research dept. of **Owens-Illinois Glass Co.,** Toledo. A native of Sweden, Mr.

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DENTAL FLOSS

Attractive, sales quickening, the clear blue plastic cover displays the product, protected from dust and dirt . . . announces when to buy more.

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with screw caps, colorful friction or hang-up closures*

DECORATED
in as many as 4 colors

FLEX CONTAINERS

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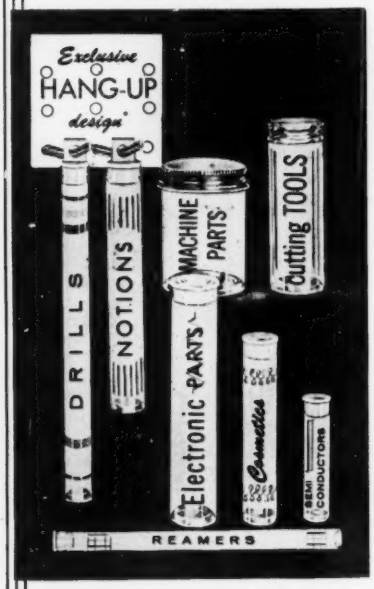

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Plants & People [*Cont'd*]

Holmquist has been in the U. S. since 1953. He is now working to develop new glass-crystalline materials.

A new creative design service is offered to multiwall-bag-using customers of **West Virginia Pulp & Paper Co.**, New York. The service provides what is described as "a fresh, original approach to printing, color and layout" in multi-wall bag design, without cost to the customer. **Bradbury Thompson**, independent designer, has been retained as design consultant for the new service.

Howard F. Krickl has been named to head technical sales-service at **Vulcan Containers, Inc.**, Bellwood, Ill.

William D. Miller is the newly elected exec. v.p. of **Consolidated Aluminum Corp.**, Jackson, Tenn. Along with **Thomas W. Allison** (v.p., mktg.-sales), he also becomes a director. **Louis C. Habegger**, v.p and gen. mgr., leaves this month to join the exec. staff of Consolidated's parent company, **Aluminum Industrie, A.G.**, Switzerland.

Rossotti Lithograph Corp., North Bergen, N. J., designer and producer of multi-color packaging, has appointed **Ernest Williams** as gen. sales manager.

In line with long-range plans for expansion and modernization of paper-manufacturing facilities, **The Hamersley Mfg. Co.**, Garfield, N. J., has installed several new pieces of equipment. As a result of these additions, says the company, paper produced is much cleaner, even and smoother than was previously possible. Also, new grades of paper are being manufactured.

Eugene J. Kelly was honored by **Sun Chemical Corp.** at a testimonial dinner on the occasion of his 50th anniversary in the printing ink manufacturing business. Mr. Kelly received the industry's first Ault Award in 1954 for his development of moisture-setting inks.

Sam R. Bowman has been elected to the newly created position of v.p. of mktg., **Northwestern Glass Co.**, Seattle.

Joseph S. Persaud has been promoted to the post of Midwest sales mgr. for **Extrudo-Film Corp.**, New York. **Harold R. MacHenry** has joined the company as asst. Midwest sales mgr. Both men will work out of the Chicago office. **Ronald Newton** has been named sales mgr. for Extrudo-Film's Southwestern region. Plans have been made for expansion of the company's Wentzville, Mo., plant.

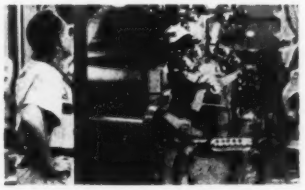
Henry C. L. Johnson is new gen. mgr. of **Lippincott & Margulies, Inc.**, industrial designer, New York. He was formerly asst. to the president.

The opening last September of **Lily-Tulip Cup Corp.**'s new technical center in Commack, L. I., was a highlight in the company's research and development program. All facilities of this function are now consolidated under one

[*Continued on page 147*]

J. L. Clark helps Keebler protect the quality and freshness of its crisp saltines and assure quick brand identification

a fine container projects product quality

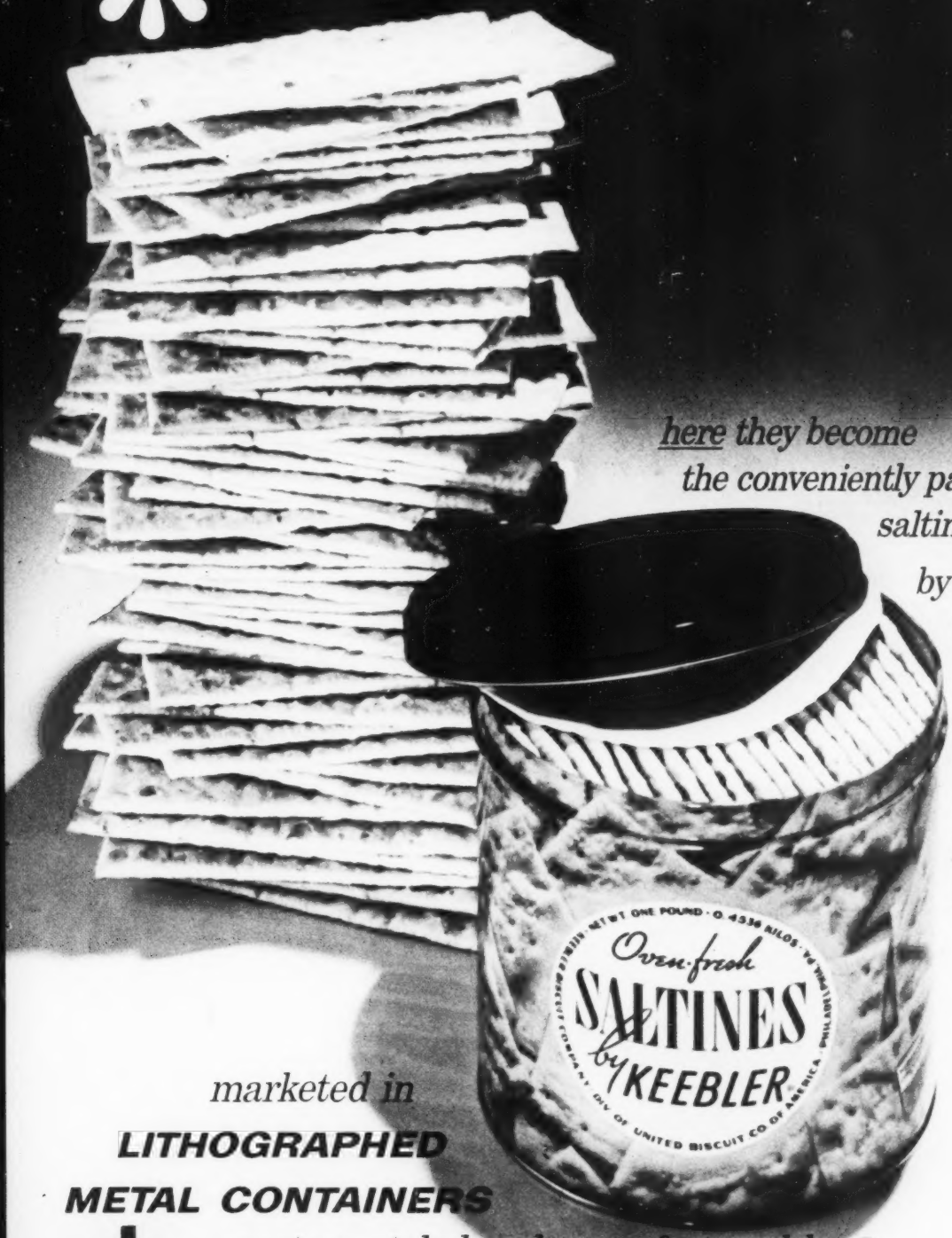


Quality, appeal, value—every message the container must convey—can be emphasized forcefully through fine metal lithography, where Clark leads with 5 national awards in 6 years. Clark blends the experience of skilled craftsmen with advanced technical knowledge to capture dominant product benefits. The result: distinctive packaging that stops, interests, pleases, and persuades . . . increases acceptance for a brand.

Today, Clark leads in distinctive design, precise color formulation and reproduction standards, coating and finishing techniques. New developments are underway that increase container individuality and add greater utility, help assure customer recognition and approval. Talk over your specific needs with a Clark salesman: our facilities are ready to serve you.

J. L. CLARK MANUFACTURING CO., Rockford, Ill.; Liberty Division Plant and Sales, Lancaster, Pa.; New York Sales Office, Chrysler Bldg., N. Y. 17

these are crisp, delectable saltines



here they become the conveniently packaged saltines by ***KEEBLER*** *that homemakers see, buy, like, know, buy again*

marketed in

LITHOGRAPHED METAL CONTAINERS

custom styled and manufactured by

J. L. CLARK

Send for informative booklet "A Businessman's Guide to Container Design."

Announcing the new 1961 MODERN PACKAGING ENCYCLOPEDIA ISSUE

• Off press—starting the end of November—comes THE workbook of the packaging industry. Complete and up-to-date in every detail, this new 1961 issue contains articles and features of interest to everyone in the packaging community.

You'll find over 880 pages of packaging information—including a report on latest trends and developments . . . plastics, metal, glass and paper packages . . . accessories and specialty equipment . . . plus more than 350 pages of informative advertising.

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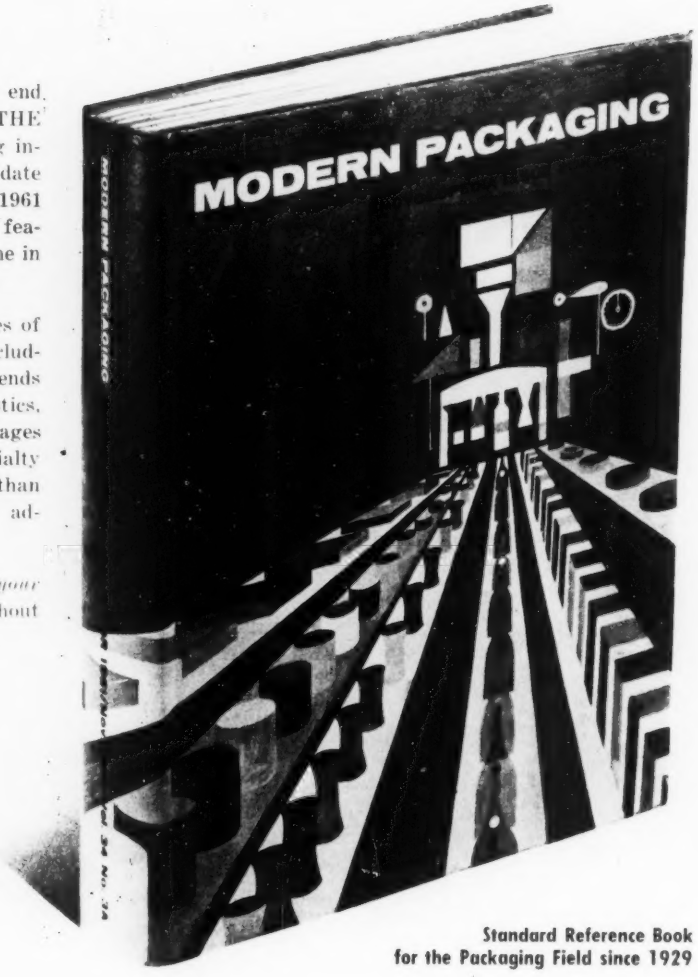

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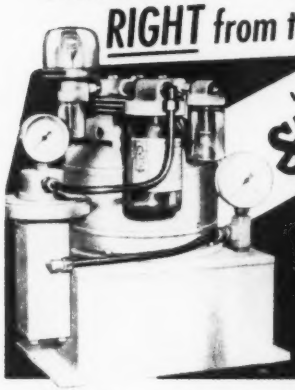

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Ideal for All Web Processes:

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Exclusive Stanford engineering and construction features give you new POWER to handle any size rolls . . . new VERSATILITY for every web process, every material . . . new CONVENIENCE to overcome web guiding problems. Unique P-H "Automatic Pilot" provides instant, accurate correction of web path without "hunting" or "chattering" — cuts costs by eliminating waste and speeding production.

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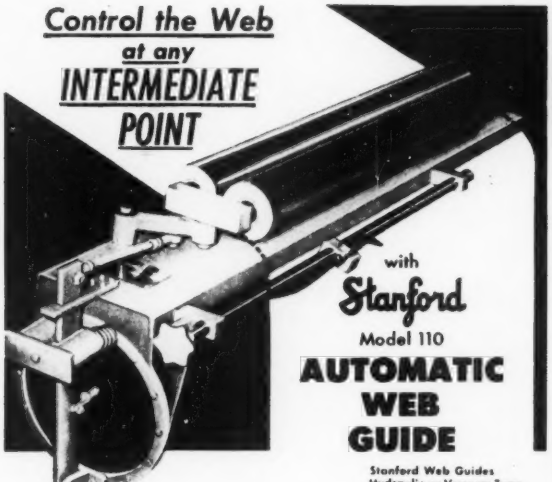
Control the Web at any INTERMEDIATE POINT



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AUTOMATIC WEB GUIDE

Stanford Web Guides Hydraulic or Vacuum Type

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- Complete package units adapt to present equipment
- Unconditionally Guaranteed

World's most efficient, economical side register control. Precision-built Stanford vacuum-operated unit constantly controls web to maintain exact alignment. For use with all types of web materials: Paper, film, foil, plastics, fabric, rubber.

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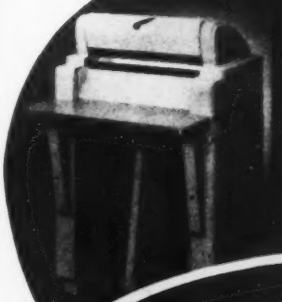
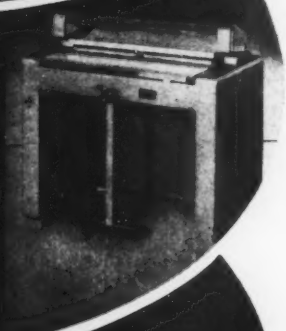
Here's PLUS PROFIT on SHEET PLASTIC PACKAGING

FASTER BLISTER PACKAGING BLISTER-EDGE FOLDER



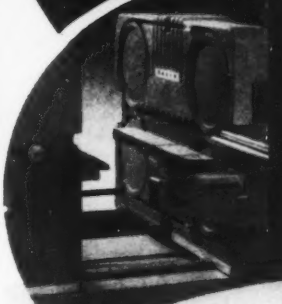
Performs 180° edge folds at rate of 600 to 1200 folds per hour on blister packages made from thermoplastic sheet from .005 to .020 in thickness. Heated 18° blade actually molds sheet into desired fold to accommodate slide-in cardboard bottom. No tearing or opening up.

700 FOLDS PER HOUR FOLDER-CREASER



This dual-purpose 30" sheet plastic fabricator gives you the advantages of TWO machines at ONE price. The Folder-Creaser handles sheets .004 to .020". Folds minimum of 700 per hour at 180° and 10 slant-creases 90° angles at minimum of 1200 per hour without rejects, tearing or opening up.

BEAD 2 EDGES AT ONCE DUAL-EDGE BEADER



Simultaneously beads both edges of plastic sheet, rolls the cut blanks and strips .005 to .020 thickness, 2 to 20" wide. Nine different beads and Specials. High speed production: 500 to 1,000 per MINUTE. Each head can be used independently as a single edge beader if desired.

WRITE FOR LITERATURE describing folding, creasing, beading, drawing and forming machines.

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How Lord Baltimore stamps beauty into an award-winning cosmetic carton

FOR OVER 35 years, leading cosmetic companies have relied on Lord Baltimore's craftsmen for packaging that *sells* beauty. Avon's *Here's My Heart* line is one example of our craftsmen at their best.

The tasteful, feminine appearance of this award-winning line was captured by Lord Baltimore's embossing process. The delicate white-on-white pattern is hot-stamped into each carton with precise control. And results in a package that whispers beauty to thousands of customers.

Embossing is one of many effects available in every plant. Gold stamping, bronzing or gold inks add a rich accent to any package. Our unique finishing machines offer the widest range of protective and decorative coatings in the industry.

We can construct a carton precisely designed for your product. Write: 425 Park Ave., New York 22; San Mateo, Calif. or 333 N. Michigan Ave., Chicago, Ill.

Lord Baltimore Press

Plants & People

(Continued from page 142)

rod. **Stephen W. Amberg**, director of research and development, and **Rufus S. Hovey**, director of manufacturing engineering, will supervise operations of the new center.

Container Corp. of America, Chicago, has opened a new marketing and research center at Oaks, Pa., near Philadelphia. Development of new packaging concepts, evaluation of paperboard, plastics and other packaging materials and process research on printing and fabrication techniques will form part of the new center's activities.

Precision Plastics Co., Philadelphia, has installed blow-molding equipment as part of an expansion program emphasizing increased customer service. The new equipment permits manufacture of a broader range of products than was possible previously, says the firm.

General Converting & Laminating Corp., converter of flexible packaging materials, Oakland, Calif., has elected **Jack Woods** v.p. and gen. sales mgr. He will work to provide the company's customers with a wider range of products and services.

Lee Associates of Wellesley Hills, Mass., consulting engineer engaged in the design of special packaging machinery, has named **Winton E. Balzer** a full partner. Formerly pres. of **Brown Filling Machine Co.**, Mr. Balzer also has served as sales mgr. for packaging machinery at **Sund-Straud Corporation**.

Avery Label Co., Cleveland, has commenced pressure-sensitive-label production in a new plant in Cleveland. The company recently expanded its East Coast facilities with the opening of a second plant in North Brunswick, N. J.

Tennessee Eastman Co., Kingsport, Tenn., has expanded its research program with the establishment of a new company, **Eastman Research, A. G.**, Zurich. The new Swiss sub. will conduct research programs independent of those pursued in Eastman's U. S. laboratories.

As of Jan., 1961, decorative foil products of **Reynolds Metals Co.**, Richmond, Va., will no longer be handled by a separate division. The Decorative Foil Div., created to establish a market for the company's aluminum foil gift wrap has been integrated into central operations. **Arrow Brands, Inc.**, will continue as a separate company.

AviSun Corp. has moved its executive offices to the Philadelphia National Bank Bldg., Broad and Chestnut Sts., Philadelphia. The company, a jointly owned affiliate of **American Viscose Corp.** and **Sun Oil Co.**, produces polypropylene resin and film.

Promotions

Robert L. Schwyn: to v.p., **Corning Fibre Box Corp.**, Corning, N. Y. Mr. Schwyn also is sales mgr. **Henry F. Spear**: to asst. sales mgr. The company, a sub. of **Corning Glass Works**, makes corrugated specialties and shipping containers.

Francis R. DiFranco: to mgr., **Hydro-Chemie Div., Conapac Corp.**, New York. He was formerly mgr. of converter sales in New York, Ohio and New England. The division handles U. S. manufacture of the thermoforming equipment of **Hydro-Chemie, Ltd.**, Zurich.

T. M. Cranmer: to mgr., packaging sales, Chicago office, Bondware Div., **Continental Can Co.**, New York. **R. S. Mackenzie** succeeds Mr. Cranmer as mgr. of sales service in the div.'s Newark, N. J., headquarters.

Lloyd T. Flanner: to tech. service supv., "Genetron" aerosol propellants, **General Chemical Div., Allied Chemical Corp.**, New York.

I. Wayne Keller: to director, **Armstrong Cork Co.**, Lancaster, Pa. He is v.p. and gen. mgr. of international operations. **Walter E. Hoadley**: to v.p. and treasurer.

S. M. Spencer: to mgr., St. Louis bag plant and sales div., **Bemis Bro. Bag Co.**, St. Louis. He succeeds **Philip C. McGrath**, who is retiring. **S. D. Robey**: to mgr., Omaha plant and sales division.

William A. Vandivere: to asst. sales mgr., fibre can div., **Sefton Fibre Can Co.**, Maplewood, Mo. Sefton is a div. of **Container Corp. of America**.

Thomas R. Francis: to New York mgr., glass container sales, drug and chemical industries, Glass Container Div., **Owens-Illinois Glass Co.**, Toledo.

Appointments

Jack K. Whitney: from **W. R. Grace & Co.** to mgr., West Coast sales, **Imco Container Corp.**, sub. **Rexall Drug & Chemical Co.**, Kansas City, Mo.

Edward F. Miller: to director, research and development, **The Flexographic Corp.**, Mason, O., maker of flexographic equipment.

Mort L. Rothenberg: to mgr., New York office, **Scherr & McDermott & Associates**, design firm, Akron, O.

Jerry Barger: to sales mgr., Salisbury, N. C., Southeastern district, **Multi-Pak Corp.**, Middletown, O. The company makes soft-drink bottle carriers.

Obituaries

Ronald O. Bice, special asst. to the packaging sales mgr. of **E. I. du Pont de Nemours & Co.**'s Film Dept., died Oct. 8 after a short illness. He was 53 years old. Mr. Bice had been asst. mgr. of packaging sales for the Eastern district from 1949 until last May. He joined Du Pont in 1941.

Carlile P. Winslow, one of the founders of the **U. S. Forests Products Laboratory** in Madison, Wis., in 1910 and its director from 1917 to 1946, died Sept. 24 in Washington, D. C. He was 76.

How LORD BALTIMORE helped create an award-winning carton for Avon

THE POPULAR *Here's My Heart* line was designed by Avon's Max Rogers. His design called for a simplicity that would reflect the superiority of this Avon line and appeal to a broad range of customers.

Why IPX* Board

To achieve these goals, Lord Baltimore recommended International Paper's new IPX Board. This packaging board is *economical* and provides a smooth, white printing surface and light-colored interior. The design was carefully transferred onto our fine embossing plates and beauty was stamped into each package. The Avon name and color accent, printed in light blue, plus our embossing, result in a package of tasteful simplicity.

Award-winning package

Because of this Avon line, the Folding Paper Box Association gave *another* Technical Superiority award to Lord Baltimore. An award that reflects our ability to create packaging that sells on sight.

Matched nationwide facilities

Lord Baltimore's folding box plants are located in Baltimore, Md., Clinton, Iowa and San Leandro, Calif. They are backed by the complete resources of International Paper's mills and research centers. Our matched nationwide facilities and 11 sales offices serve these packaging fields:

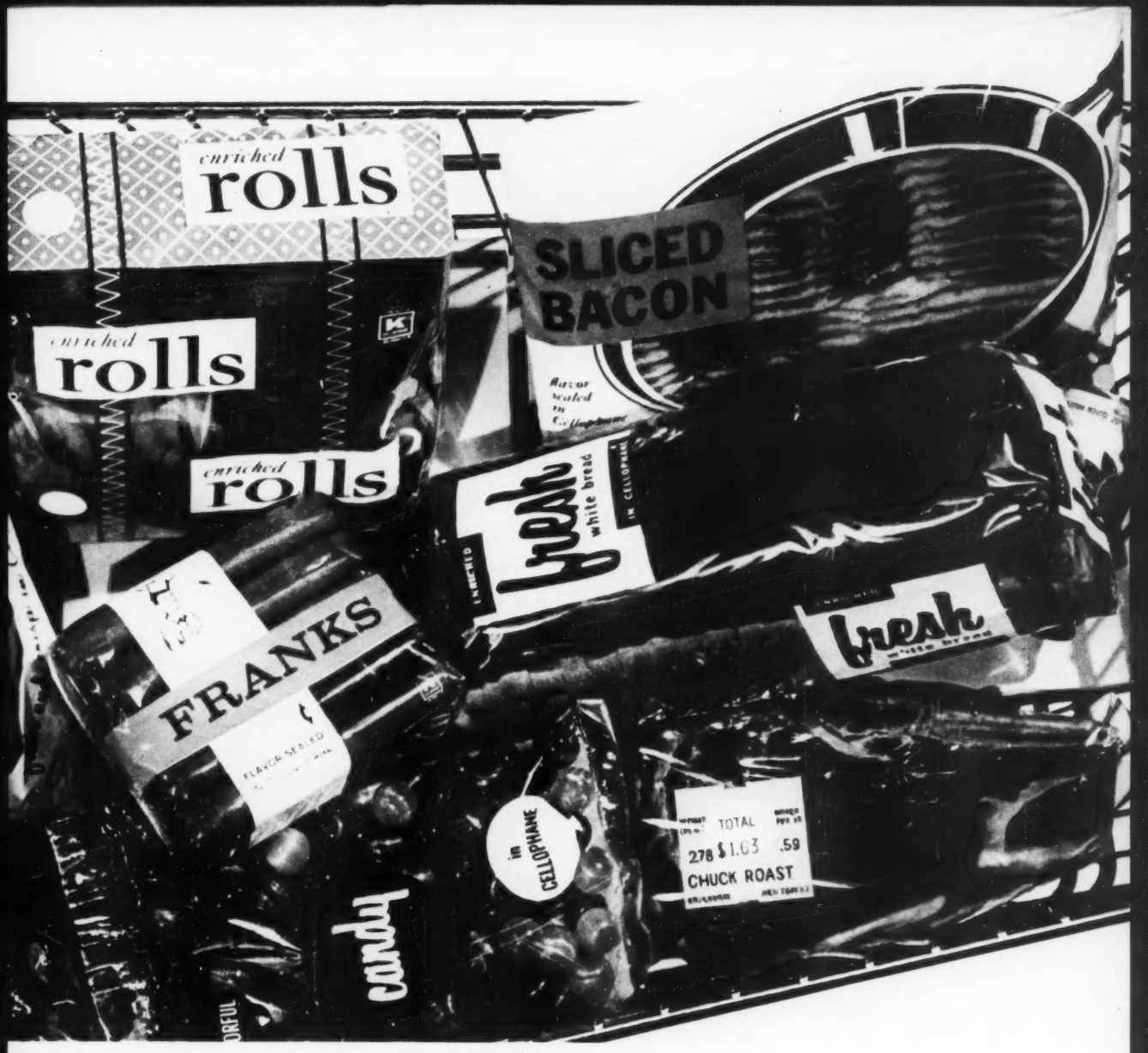
Cosmetics	Pharmaceuticals
Dry Foods	Dairy Products
Frozen Foods	Tobacco
Beverages	and many others

ET 31.

COLOR-IMPACT PACKAGING... with the

Both the color of your product and the color of your package sell with Du Pont cellophane. Its crystal-clear transparency lets shoppers *see* all your product's appealing natural color.

Du Pont cellophane takes beautiful, eye-catching color printing . . . gives you complete freedom to pick the package design that sells best. In addition, you just can't beat cellophane's performance on high-speed machines, precise protection, and its



selling power of clean, clear Du Pont cellophane

versatility in package constructions. No wonder so many smart packagers specify Du Pont cellophane.

Are you packaging profitably? Find out why it pays you to start your package planning with one of Du Pont's over 100 types of cellophane. Ask your Du Pont Representative or Authorized Converter of Du Pont Films to help evaluate your special needs. Du Pont Co., Film Dept., Wilmington 98, Delaware.

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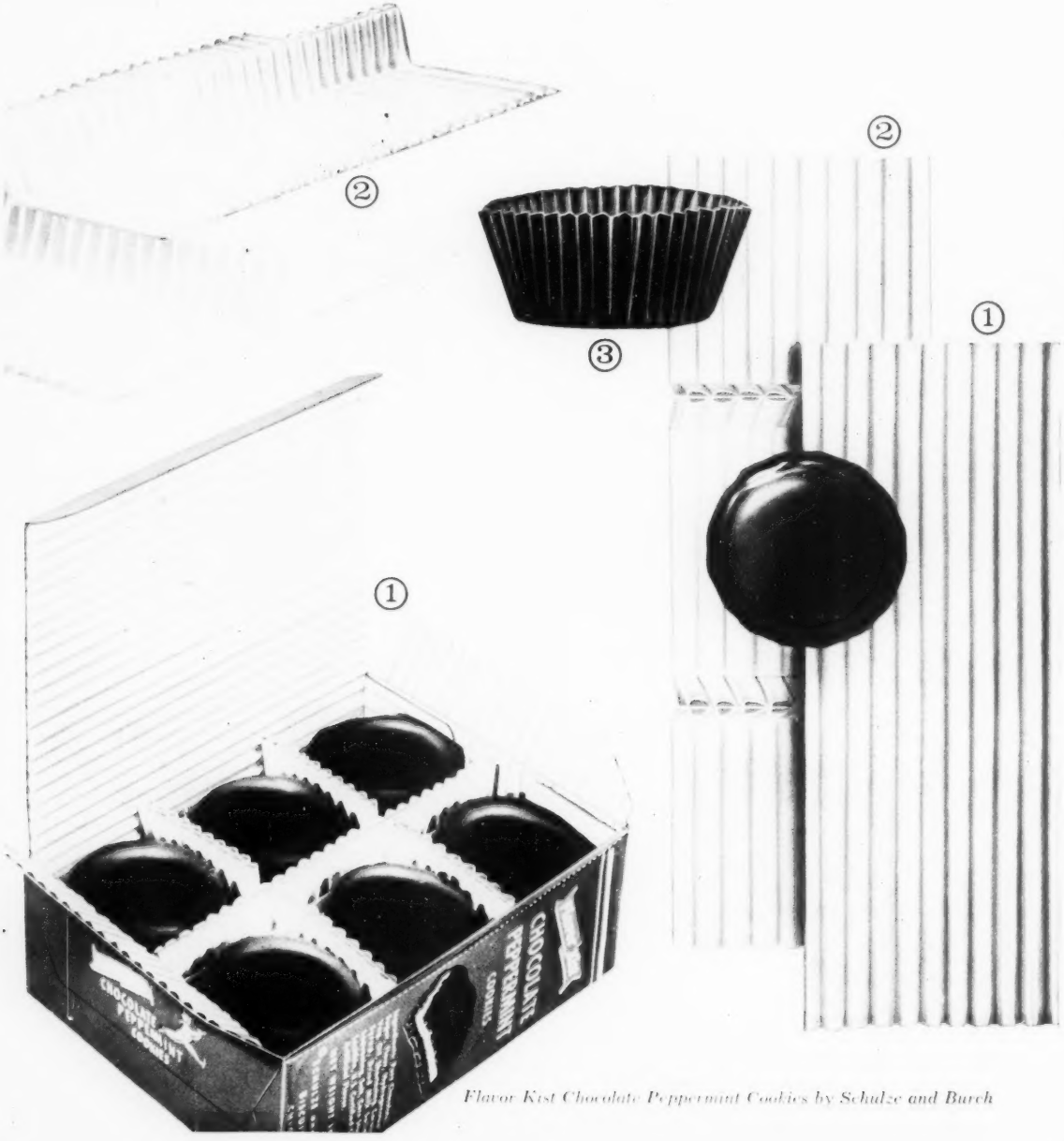
DU PONT cellophane

Good Cookie Packaging...makes triple-play with Rhinelander Papers!

This photograph displays the versatile teamwork of Rhinelander Glassine and Greaseproof papers in providing excellent three-way package protection for chocolate peppermint cookies. ① Corrugated Glassine is laminated to chipboard. This gives added strength to the overall package, prevents staining, and cushions its contents against damage. ② The inner dividers and trays of corrugated Greaseproof provide support against shock and staining. ③ Fluted cookie cups of rich red Glassine add a pleasing note of color and give greaseproof and shock protection.

These economical Rhinelander papers perform well on modern laminating and packaging equipment. Write for samples and complete information for the packaging of your product.

RHINELANDER PAPER COMPANY • RHINELANDER, WISCONSIN • Division of St. Regis Paper Company



Flavor Kist Chocolate Peppermint Cookies by Schulze and Burch

New Kodapak packaging helps open 10,000 new outlets!

Thousands of home sewing machines throughout the country were sitting idle for lack of simple parts and supplies. That was the situation that led Singer, through the Donahue Sales Corporation, to blister-pack 20 SINGER Sewing Aids in tough, crystal-clear .010" Kodapak Sheet—experience-proved for low-cost packaging.

Today this streamlining—*making it easier for shoppers to shop—easier for retailers to sell*—is leading customers to stop, look and buy in more than 10,000 new retail outlets! Result: Lower sales costs, higher profits all along the line.

How about your product? Can't these same technics create new sales for you? For more information, call our representative or write:

Kodapak Sheet

Kodapak is a trademark for Eastman's plastic sheet

Cellulose Products Division
EASTMAN KODAK COMPANY
Rochester 4, N.Y.

Sales Offices: *New York, Chicago, Atlanta.* Sales Representatives: *Cleveland, Philadelphia, Providence.* Distributors: *San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.)*

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the advantages of custom design—the economy of stock prices

Created to give your product packaging an "exclusively yours" look. The Royal "Designer" bottle is available in 12, 22, and 32 oz. sizes, with your label in silk screen, offset, Dennison Therimage or paper. Return coupon for sample bottle and full information.

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GENERAL THERMO-JET CONVEYORIZED OVEN

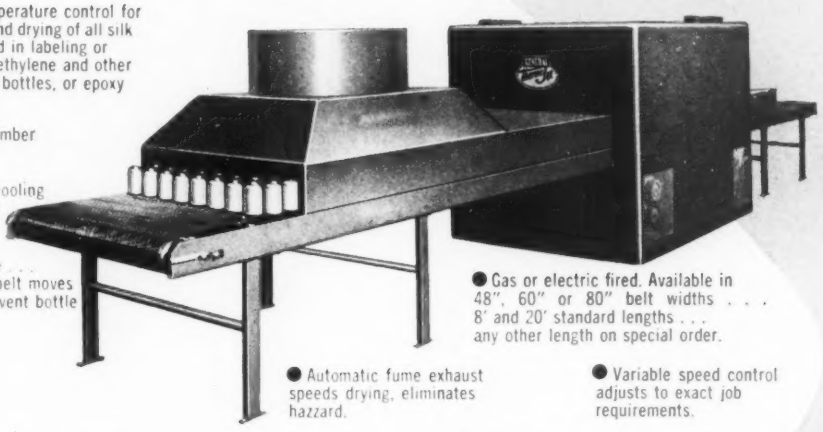
FOR CONTROL IN CURING PRINTING INKS ON PLASTIC BOTTLES!

● Accurate temperature control for perfect curing and drying of all silk screen inks used in labeling or decorating Polyethylene and other types of plastic bottles, or epoxy inks on glass.

● Completely insulated chamber saves fuel, cuts shop heat.

● Pre-heating and pre-cooling areas assure a perfect "cure."

● Vibration-free . . . absolutely flat belt moves smoothly to prevent bottle tipping.



● Gas or electric fired. Available in 48", 60" or 80" belt widths . . . 8' and 20' standard lengths . . . any other length on special order.

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● Variable speed control adjusts to exact job requirements.

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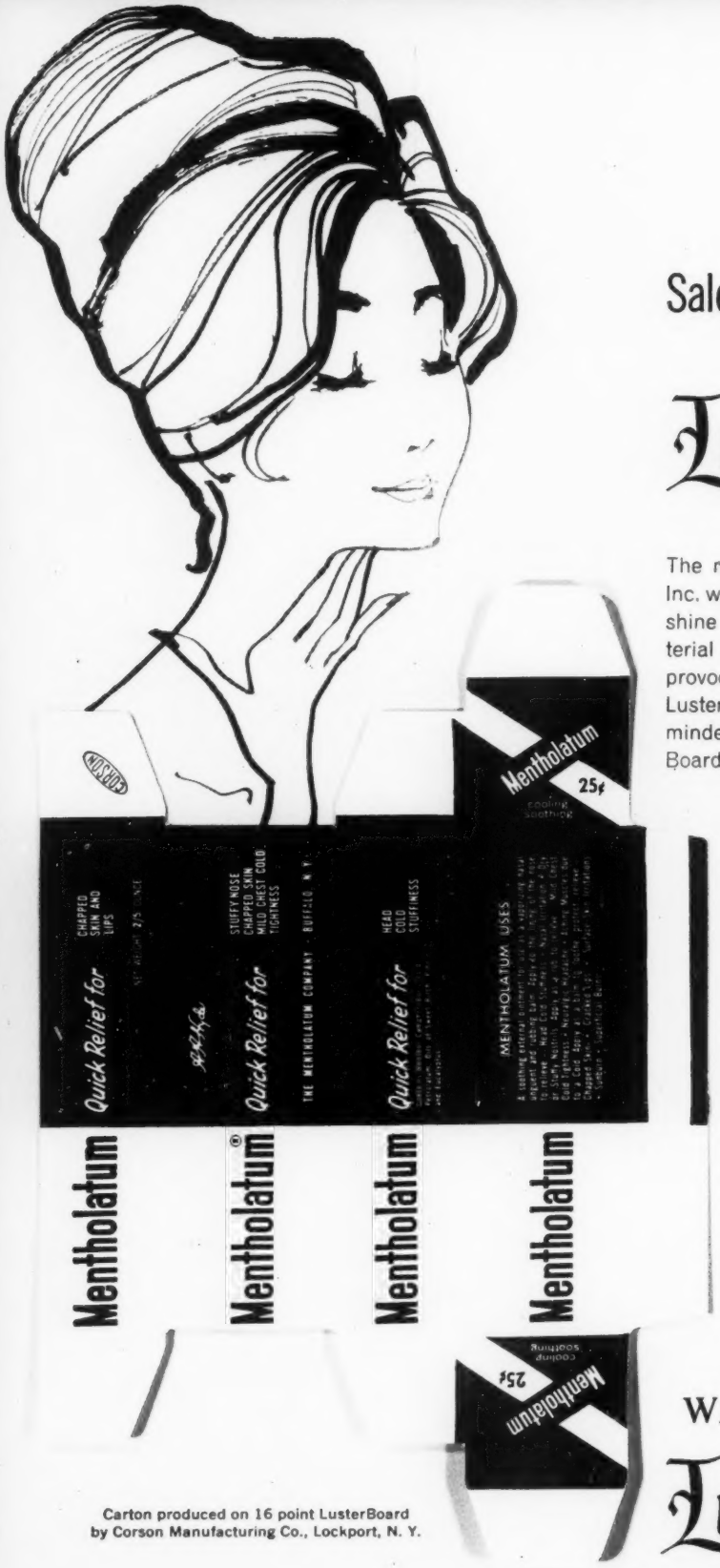

Carton produced on 16 point LusterBoard
by Corson Manufacturing Co., Lockport, N. Y.

Sales-minded manufacturers choose LusterBoard

The marketing team at The Mentholatum Co., Inc. wanted a new, attractive package that would shine with salability. Here's the packaging material of their choice, right before your eyes — provocative LusterBoard. Results prove that LusterBoard was a wise choice! Many sales-minded manufacturers find success with LusterBoard. Here's why:

- Smooth folding, superb embossing effects
- Fast ink setting
- Maximum fidelity of halftone reproduction
- Range of 14, 16, 18, 20, and 22 point thickness

Samples, demonstration pieces, and technical information are available from: *S. D. Warren Company, 89 Broad Street, Boston 1, Massachusetts.*

Warren's STANDARD
Printing Papers

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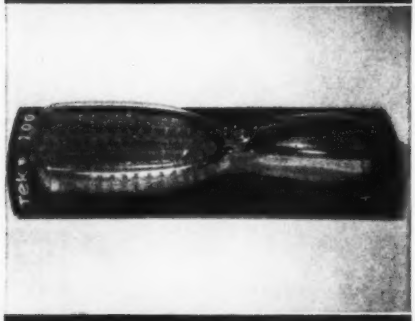
LusterBoard

CAMPCO

Plastic Sheet and Film

some practical IDEAS for its use



Campco Sheet and Film has demonstrated exceptional quality and dependability in thousands of applications. The data which follows indicates the characteristics and qualities of each type, enabling you to match them with the requirements of your product. If further information is desired, we shall be glad to supply it.

STYRENES

S-540 Styrene—Rubber modified rigid alloy. High impact strength and dimensional stability. Low moisture absorption, good heat resistance. Vacuum form. Gauges .010″ to .187″ stock or custom sheets. Colors, translucent or opaque. For display, toys, trays, packaging, housewares, luggage, housings, cabinets, tote boxes.

S-300 Styrene—Similar to S-540 but with greater rigidity. Good impact strength.

S-1029 Tripolymer Styrene—High impact, tensile and flexural strength at extreme temperatures. Excellent chemical resistance and dimensional stability, low moisture absorption. Forms easily, machines readily. In smooth or Haircell grain finish, gauges .020″ to .125″, many colors. For luggage, housings, chairs, ducts, exhaust hoods, clock cases.

ACETATE

A-130 Cellulose Acetate—Strong and tough. Vacuum or pressure form. Machines well. In gauges .003″ to .060″ transparent, translucent, opaque, clear and colors. For blister packs, wraps, displays, toys, novelties, indoor signs.

POLYETHYLENE

PE-200 Linear Polyethylene—Rigid, tough, heat and chemical resistant with good dielectric properties. Forms, machines, welds. Gauges .020″ to .125″ custom sheets and rolls. For housewares, containers, vessels, electrical products, toys, housing, packaging.

PE-100 Low Density Polyethylene—Low melt viscosity, excellent chemical and heat resistance. Stable under humidity changes. Vacuum form. Processes rapidly. In gauges .015″ to .125″ gloss finish custom sheets and rolls. For housewares, packaging, toys, containers, form liners, electronic applications.

POLYPROPYLENE

PP-300 Polypropylene—Impervious to stress cracking. Excellent dielectric properties, chemical resistance, rigidity, strength. Heat resistant to 300° F. Low specific gravity. Gauges .010″ to .250″ custom sheets and rolls, variety of colors. For chemical ducts and vats, fittings, electrical parts, sterile items.

Campco engineers will gladly work with you on any problem involving the use of these materials. Write or phone today. There is no obligation.

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GRADE
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The original Mr. Gross

If it's a new idea in shipping containers, the man they call 'Mr. Corrugated' probably had a hand in it.

TO TED GROSS, originality comes as naturally as breathing.

Ted has been applying his inventive gifts to corrugated box users' needs for 26 years. Currently he's Technical Advisor of Union-Camp's Box and Board Division. *Creative Director* might be a better description. Because Ted actually coordinates all the activities that go into the developing, designing and testing of a new corrugated container.

Remember the famous "V-Boxes" in World War II? They were developed when Ted was President of Container Laboratories. A task force under his direction worked closely with a special committee of the Fibre Box Association to produce the original wet-strength corrugated box. This development enabled military supplies to withstand the wet conditions of amphibious landings.

The widespread use today of lightweight, low-cost *produce* boxes also owes much to Ted's ingenuity. As Chairman of the Citrus Container Institute, he pioneered in developing corrugated boxes for shipping citrus fruits. The knowledge gained in this area has led to the widespread use of corrugated for shipping a variety of fresh produce—safely and economically.

Look at the instruments in our photograph. They're the special box gauges now being adopted as the standard for measuring the inside dimensions of a corrugated container. You guessed it. Another Ted Gross "first."

The original Mr. Gross' latest project is field testing new types of *bulk* boxes. They'll be used primarily for shipping granular products in lots weighing thousands of pounds. Imagine the savings this will effect over conventional handling methods!

What can Ted Gross and his staff mean to you in terms of greater shipping efficiency and economy? It costs nothing to find out. Union-Camp's comprehensive packaging service is available to all shippers. It includes equipment analysis, box design and development, specifications control, merchandising counsel and in-plant surveys of your materials handling operation.

A note on your letterhead will bring a prompt response. Why not write us today?

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CORRUGATED BOXES
Union Bag-Camp Paper Corporation, 233 Broadway, N.Y. 7, N.Y.

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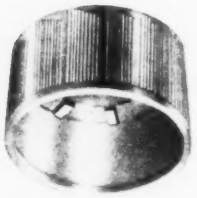
Subsidiaries: Allied Container Corporation, Dedham, Massachusetts
The Eastern Box Company, Baltimore, Maryland.

Equipment & Materials

[Continued from page 52]
electric principle, the device recognizes 31 different codes printed on containers and relays this information electronically to the self-contained counting unit and conveyor switch control. The simultaneous counting feature permits the remote-control attachment to be used for inventory control purposes at the same time selective routing is performed, says the supplier. Details are available from *Atronic Products, Inc., Bala-Cynwyd, Pa.*

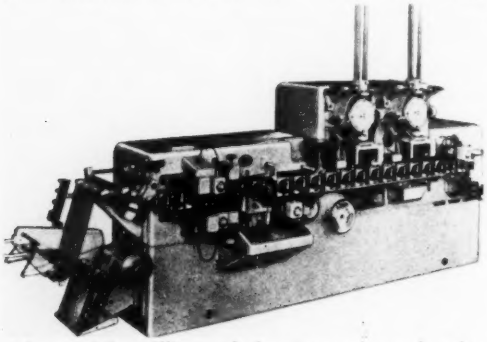
'Childproof' locking-cap bottle



Developed to protect curious youngsters from accidental poisoning is Brockway's "childproof" Safety-Cap glass bottle. The container is designed for use by packagers of prescription and proprietary medicines. It features a two-piece locking closure (illustrated) that can be easily opened by adults but poses a problem to children. A push downward on the outer shell of the cap as it is turned releases the inner "lock" and permits the cap to be removed. For secure locking reclosure, the cap must be pushed downward and turned clockwise. Brockway cites as its reason for developing this safety-closure bottle a recent survey indicating that an average of 500 children are accidentally poisoned every day. *Brockway Glass Co., Brockway, Pa.*

High-speed pouch maker

Pouch forming, filling and sealing at speeds up to 150 per minute reportedly can be performed by FMC's new horizontal pouch maker, called Type PFC. Manufactured by Swiss Industrial Co., the automatic machine is available



with any of three filling methods: piston, auger and pocket type. A broad range of powdery, granular and paste products can be filled accurately on the unit, says the supplier. Multiple filling heads can be mounted to package one, two or three different products in a single pouch. Three-seal or four-seal pouches can be produced from heat-sealable foil, film, paper or laminations. Enclosed drive mechanism is located behind the filling heads and pouch track to avoid build-up. *Food Machinery & Chemical Corp., Packaging Machinery Div., 4942 Summerdale Ave., Philadelphia 24.*

Protective wrapper for butter

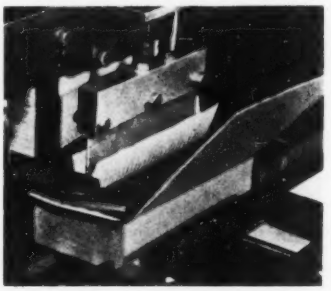
Designed to lengthen the shelf and storage life of unsalted butter is KVP Ray-Ban, a protective butter wrapper from KVP Sutherland. The greaseproof wrapper consists of a special paper laminated to Goodyear Pliofilm. Available in transparent and opaque styles, the wrapper is reported to be a strong barrier against harmful light rays. The supplier cites tests which show that the material retards surface rancidity, inhibits mold growth and protects the flavor of sweet butter longer than other wrapping materials. The Pliofilm side clings to the butter when wrapped, yet strips away freely and quickly when unwrapped, says the company. Reported to be economically priced, the wrapping material also is claimed to perform well on butter packaging equipment. For details, contact *KVP Sutherland Paper Co., Kalamazoo, Mich.*

Better ink adhesion to polyethylene

The Ionomatic is a new International Eastern machine which reportedly offers an improved method of treating polyethylene surfaces through electronic bombardment for better adhesion of printing inks. The new unit handles polyethylene bottles or other hollow polyethylene objects at up to 2,000 pieces per hour, says the supplier. Push-button controlled, the unit is claimed to be low in cost and trouble-free. Details are offered by *International Eastern Co., 301 Sixth Ave., New York 1.*

Placement of corrugated dividers

A conveyor attachment that will automatically insert protective corrugated dividers between rows of cookies in cartons has been put on the market by Peters Machinery. The corrugated dividers are designed to prevent product breakage and to keep the cookies in straight rows. Pre-scored dividers first are placed in the attachment's feeder mechanism, in flat position. As filled cartons move along the conveyor, they activate the inserting unit, which automatically folds the pre-scored dividers and pushes them gently into the carton between rows of cookies. The supplier points out that the attachment can be used to give protection to many similarly packaged fragile products. *Peters Machinery Co., 4700 N. Ravenswood Ave., Chicago 40.*



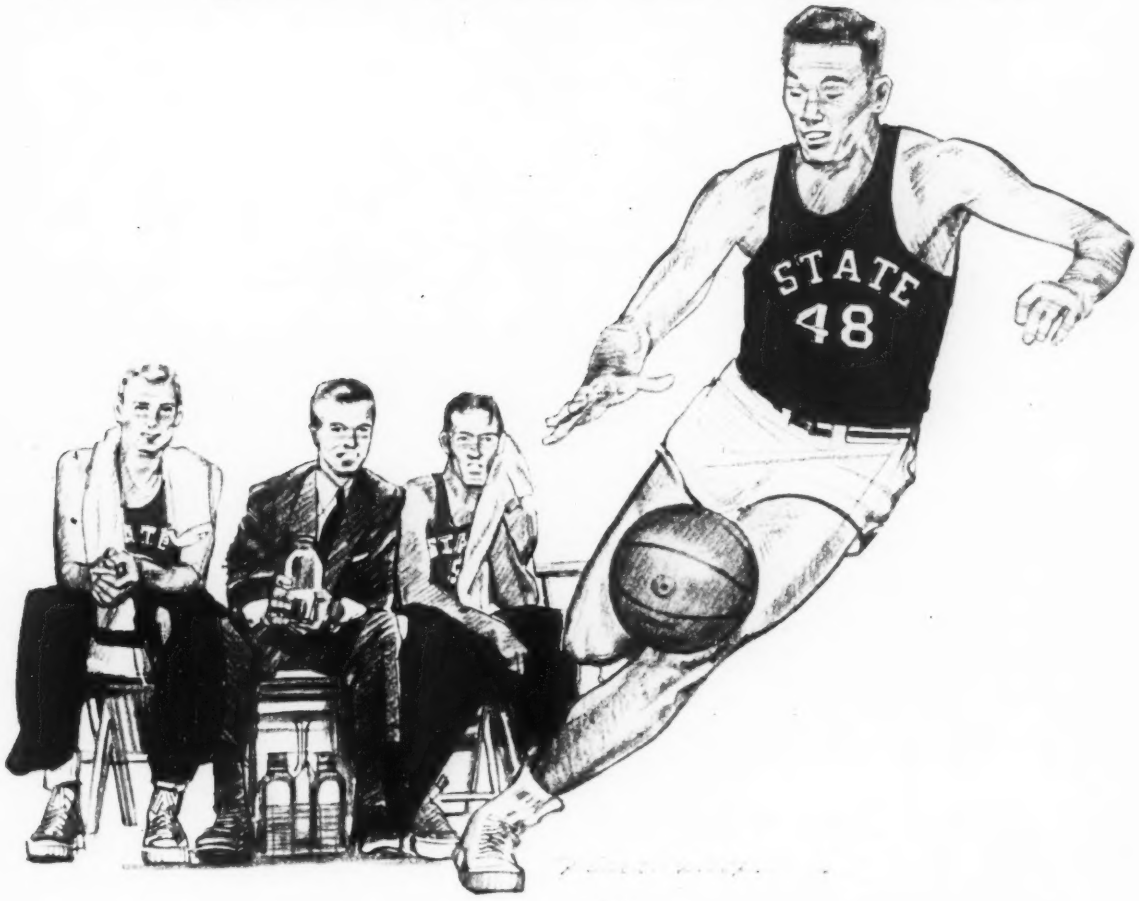
Lightweight glass jar

Armstrong introduces a lightweight glass jar for the pickle-packing industry. It has been greatly reduced in weight (the quart-size jar is said to save 1½ lbs. per case) to lower freight costs and it has been made shorter to provide more label facings on retail shelves. The jar also is claimed to be lower in initial cost. Five sizes are available: 8⅜ oz., 12¼ oz., 16⅜ oz., 22½ oz. and 32⅝ oz. The jar is straight sided and it can accommodate lug or screw caps. For details, contact *Armstrong Cork Co., Lancaster, Pa.*

Code-dating equipment

A new code-dating attachment from Kiwi incorporates an internal ink-reservoir system which reportedly lasts from

A winning team needs a "strong bench"



When you buy Duraglas containers or their closures from Owens-Illinois, you acquire the rights to a "strong bench" of technical and merchandising skill.

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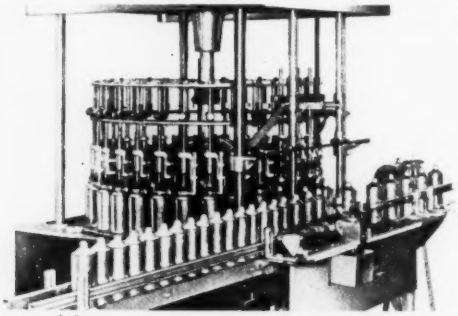
25,000 to 150,000 impressions, depending on the size of type and number of characters used in the code legend. A polyethylene squeeze bottle is used to refill the reservoir. Also available from the supplier is the Model 1016HV code-dating and imprinting machine. The unit imprints code date, contents and ingredients data in one color, using steel type, and price and weight data in red, using rubber type. *Kiwi Coders Corp., 4027 N. Kedzie Ave., Chicago 18.*

New filling-line equipment

Two new items of packaging machinery—an automatic rotary filler and an automatic container feeder—are offered by MRM. The new filler (illustrated) is a rotary-action, 30-spout model incorporating overhead drive. Capable of handling metal, glass or plastic containers, it can be



converted from vacuum to gravity fill of liquids or viscous products. The unit is reported to have a capacity range of from 300 fractional-ounce containers per minute to 75 one-gallon containers per minute. It can accommodate regular or odd-shaped containers. Product or package change-over is said to be very rapid. Designed to operate in conjunction with any automatic line, the filler is fed by an intake conveyor and releases filled containers on a discharge conveyor that can be integrated with automatic capping machinery. The supplier's new feeder (which also handles glass, metal or plastic containers) is claimed to operate at speeds up to 250 per minute. Only one operator is needed to dump uncartoned containers onto a flat stationary plate. The machine then pushes them through adjustable aligning chutes in properly synchronized rows to the discharge portion. *MRM Co., Inc., 191 Berry St., Brooklyn 11.*

Automated parts-handling system

General Automation offers an automatic parts-handling system which reportedly can be adapted to conventional small-parts packaging equipment. The system consists of a vibratory feeder and a device that orients the parts and chute-feeds them to the use point, where an escapement releases them singly or in multiples, as required. The feeder bowl has a limit switch that can be pre-set for maximum and minimum depth of parts, thus controlling parts quantity and assuring consistently efficient functioning, says the supplier. The new system is available in a variety of sizes and capacities. *General Automation, Burbank, Calif.*

Polyethylene-film packaging items

A line of heavy-duty polyethylene bags and a polyethylene film designed for use as an inner wrap for loaf bread have been introduced by Kordite. The moisture-impervious, chemically inert bags are offered in transparent, color-opaque and tinted translucent shades. The 8-mil bags are claimed to be superior in strength to conventional 10-mil-walled bags. Another feature cited by the supplier is exceptional seal strength, reportedly achieved via an exclusive sealing process. The bread-wrap film being marketed by the firm is available in $\frac{1}{2}$-mil and $\frac{3}{4}$-mil gauges. It is suggested as an inner wrap under conventional waxed-paper wrapping. Use of the $\frac{3}{4}$-mil film in combination with the waxed paper, says the supplier, doubles product moisture protection and freshness at an added cost of less than 0.3 cents per loaf. The inner wrap also can be reclosed for continued product protection. *The Kordite Co., Macedon, N.Y.*

Hand-operated portable sealer

Packaging Industries introduces a portable, hand-operated impulse sealer, designed for sealing unsupported films such as polyethylene, nylon and vinyl. The Model NV-6 is brought to the job instead of the job being brought to the sealer. This advantage eases what might otherwise be a difficult task in effecting final closures, says the supplier. The sealer contains tension springs which assure the same jaw pressure regardless of the amount of pressure applied by the operator. The new unit reportedly will seal film or thermoplastic sheets up to 12 mils thick. It has a seal length of 6 in. and depth of throat in excess of 2 in. Other models offer seal lengths of 8 and 10 in., says the company. *Packaging Industries, Inc., Montclair, N.J.*

Bag lifter offers speedy handling

Maran Mfg. introduces the Vacuum Lift, a device designed for smooth, speedy handling of multiwall and plastic bags, paperboard separators and many other smooth- or rough-surfaced items. Operating at a reported rate of 30 to 60 bags per minute in 6-in. stacks, the unit facilitates the opening of bags for filling. It also speeds up handling time in separating stacked products, says the supplier. A standard feature of the lifter is a wire aid for opening bags. Also available is a mechanical blast device to ease the handling of hard-to-separate bags. Measuring 28 in. wide by 14 in. long by 24 in. high, the unit can be mounted on workbench or table. *Maran Mfg. Co., Batavia, Ill.*

Opening ease for unit packs

Ivers-Lee, producer of unit packaging, has developed the See-V notch, a V-shaped cut-out along the edge of the package. Purpose of the notch is that it enables the user of the package to see and feel exactly the right place along the sealed edge of the unit package where it will open easiest. Even in dim light, says the supplier, it is easy to find the place where the tear should be started. For additional details on this unit-packaging improvement, contact *Ivers-Lee Co., 215 Central Ave., Newark 3.*

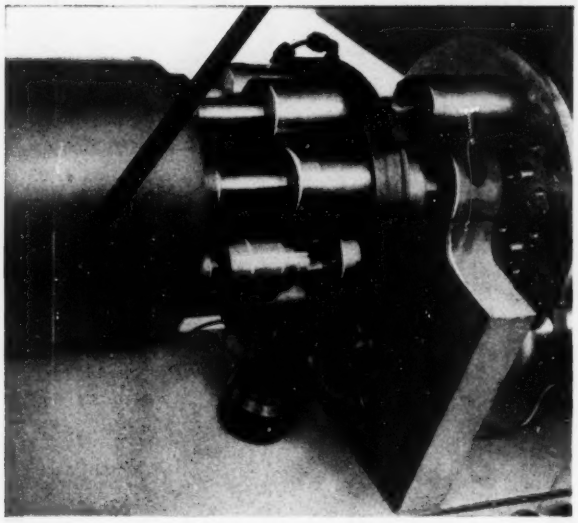
Polystyrene aerosol overcap

Designed to accommodate even the highest aerosol push valves is Walter Frank's new overcap, which is made of high-impact polystyrene. The proprietary cap also is equipped with a full internal ring which fits over the top of the mounting cup. Designated the No. 710, the aerosol container cap is of cylindrical shape, with a flat top to facilitate stacking. According to the supplier, the overcap is suitable for rapid and accurate automatic-capping operations. Quantity stocked in black and white, the overcap also is available in a wide range of colors to suit varying packager requirements. Additional information on this package improvement can be obtained from the *Walter Frank Organization, Hillside, Ill.*

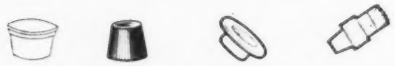
All-hydraulic blow molding

Peuchen Engineering's new all-hydraulic blow-molding machine is reported to offer smooth, cushioned mold closing that speeds production, maintains accuracy, and minimizes down time. Air is used only for the actual blowing operation; even the manifold valve which directs the flow of plastic to alternate heads is hydraulically controlled. Cushioned mold closure is achieved by means of a two-stage hydraulic system. A low-pressure pump closes the mold at high speed to within the last $\frac{1}{2}$ in. of platen travel. Then,

FREE...



*ROTO-JET FOR LOWEST COST INJECTION MOLDING OF



The rotating turret, a patented Roto-Jet system, provides the key!

INJECTION, COOLING, SPRUE REMOVAL and EJECTION automatically take place simultaneously at different stations using 8 inexpensive single cavity molds. Pre-Plasticizes material by a simple screw extruder before injection. • Handles nylon and all other thermoplastic materials. • Molds can be identical or different • Perfect for small items: caps, containers, industrial items; also threaded pieces. • Continuous production at speeds up to 50 shots per minute. • Available in 4 models ranging from ¼ oz. to 2 oz.

Contact us for further information on the Roto-Jet and Hydro-Chemic thermoforming equipment.

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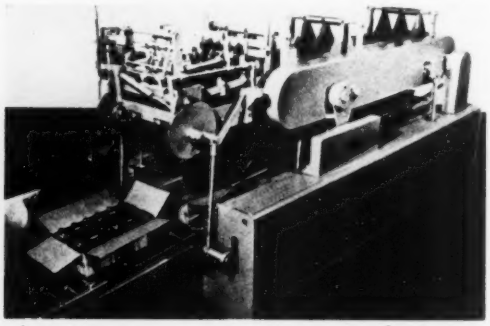
Equipment & Materials [*Continued*]

with the platen almost stopped, the mold closes smoothly and a high-pressure pump applies clamping pressure. According to the supplier, this action eliminates jolts, jars and vibrations, thereby assuring longer machine and mold life as well as fewer shutdowns and greater accuracy. Two models of the blow molder (JR100 and SR100) are available. *Peuchen Engineering Corp., Wilmington 4, Del.*

Continuous-motion casing machine

Atkron has introduced a new, automatic, continuous-motion casing machine for can and bottle wrap-around packs. Two models are available: the OEP-30 for line speeds up to 30



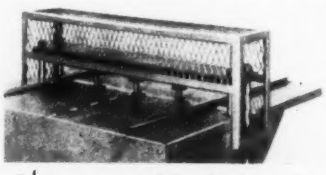
cases per minute and the OEP-20 for line speeds up to 20 cases per minute. Either model handles can or bottle multipacks through a system of interchangeable packing heads. Continuously operating conveyors route cases and multipacks straight through the packer. Packing drop is accomplished by mechanical cam action. The Atkron Dumore machines are available through their distributors, *Geo. J. Meyer Mfg. Co., Cudahy, Wis., and Economic Machinery Co., Div. Geo. J. Meyer Mfg. Co., Worcester, Mass.*

Locking champagne-bottle closure

From Lok-Seal comes a polyethylene-plug bottle closure with a metal clamping device which is claimed to offer new economy and closing ease to champagne bottles. The wire clamp, with a hinged handle, is affixed to the shoulder of the plug closure. When the closure is inserted in the neck of the bottle it is securely locked by pressing the hinge downward, an action which draws the ring portion of the clamp tight and virtually seals the closure to the bottle. Tension is released by flicking the hinged handle upward. Thus, says the supplier, the user can easily remove the plastic closure from the bottle. According to the company, the new Lok-Seal closure unit offers higher speeds in bottle closing and sealing, does away with wire hoods, holds in pressure, permits re-sealing by the user and is strong enough to withstand 4,000 lbs. of direct weight. The closure is re-usable. *Lok-Seal, Inc., 118 E. 28 St., New York 16.*

Hang-up-card hole-punching unit

Important economies in the hole punching of blister-pack master cards are afforded by the Multiple Hole Punch machine, reports Abbott Plastic Machine. The automatic device punches a full 32-in. row of clean hang-up holes simultaneously. With 2-in. spacing, 16 holes can be punched at the same time. Among the other advantages reported for the new unit are that it eliminates locating, indexing and punching of individual cards, thereby increasing speeds and cutting down on time and labor requirements. Built-in guides on the machine's table are designed to insure rapid, accurate card placement. *Abbott Plastic Machine Corp., 7124 N. Clark St., Chicago 26.*



Planned Packaging moves merchandise

Sold and still selling!

The corrugated container—workhorse of mass distribution—has long been known for its excellent product protection. Now it's fast becoming the Cinderella of packaging. Attractive, tinted background designs—even four-color half-tone printing, pioneered by Packaging Corporation of America—are transforming drab, rubber-stamped containers into eye-catching traveling billboards that sell their contents at every opportunity.

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For Your Information

At its 28th annual meeting in September, the **Packaging Machinery Mfrs. Institute** elected officers for 1961. **Kenneth B. Hollidge**, exec. v.p. of Arthur Colton Co., was re-elected pres. **William R. Huguenin**, Food Machinery & Chemical Corp., **Harold Mosedale, Jr.**, Package Machinery Co., and **William W. Anthony, Jr.**, Crompton & Knowles, were re-elected first, second and third v.ps., respectively. Among the subjects discussed at the meeting were plans for the next PMMI show, to be held in Detroit, Nov. 7-10, 1961.

Hollidge

New opportunities for research and development related to the fibre can and tube industry were explored during the membership meeting of the **National Fibre Can & Tube Assn.**, held at the Sheraton-Cleveland Hotel, Cleveland, on Sept. 28. In addition, three regional v.ps. were elected: **E. D. Bangs**, Thames River Tube Co., Eastern Area; **C. W. Coker**, Sonoco Products Co., Southern Area, and **C. W. Mullery**, Mullery Paper Packages, Western Area. Association pres. **W. F. J. Fienup** of R. C. Can Co. presided over the meeting.

As new exec. secy. of the **American Society for Testing Materials, Thomas A. Marshall, Jr.**, will head a staff which supports an organization of 10,500 members plus 6,000 additional committee members. He was formerly senior asst. secy. of the **American Society of Mechanical Engineers** and succeeds **Robert J. Painter**, who will act as consultant on long-range planning. **Fred F. Van Atta** is now treas. ASTM devotes its efforts to the stimulation of research and development of standard specifications and methods of test for materials.

The **Glass Container Mfrs. Institute** held its semi-annual membership meeting in Boca Raton, Fla., Nov. 28-Dec. 1. **E. M. Terner** of National Dairy's Metro Glass Div. was chairman of the event, which included a presentation by **Peter W. Hoguet** of the **Econometric Institute** on the general business outlook for the new year with specific reference to glass containers.

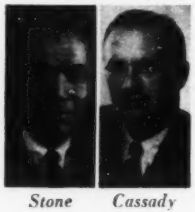
Walter Hullinger has been named v.p. of the **National Flexible Packaging Assn.** Mr. Hullinger, v.p. of sales for Milprint, Inc., will head up Div. 1, paper and household products.

Reflecting the success of last year's competition, **St. Regis Paper Co.'s Crowell Carton Co.** package-design contest has been expanded to include students at 410 universities and colleges in eight states where the organization operates folding carton plants. A total of $3,850 in cash or bonds will be awarded for the best entries in the categories of fluid packaging (a half-gallon ice cream carton) and dry packaging (a one-pound carton for cookies). Closing date is April 30, 1961, and winners will be announced at the end of May. **Lloyd Stouffer**, editor of MODERN PACKAGING, is among the judges of this competition, established to stimulate interest in package design and to attract design talent to the folding-box industry.

American Management Assn. Report No. 43, *Plastics Foams For Packaging*, investigates the new plastic foams, their characteristics, potential, and current use in packaging. The 100-page booklet represents a condensed version of material originally presented at an AMA Packaging Division seminar in January, 1960, and is available for $3 ($2 to division members) from the Packaging Div., AMA, 1515 Broadway, New York 36.

A Speakers' Bureau of the Cellular Plastics Div. of **The Society of the Plastics Industry** has been formed. Under the chairmanship of **Guy Bishop**, the bureau will supply informed speakers on all phases of cellular or foam plastics to address technical, sales and other meetings in the U. S. and Eastern Canada. The bureau also will assist in presenting factual and current information about these materials to technical and sales personnel, purchasing agents and end-users wishing to investigate cellular plastics for new products or improvement of existing ones. Requests for speakers should be addressed to SPI's Cellular Plastics Div., 250 Park Ave., New York 17.

Jerome H. Stone of Stone Container Corp. is the new pres. of the **Fibre Box Assn.**, succeeding **Clarence E. Smith** of Inland Container Corp. New v.p. of the organization is **William J. Cassady, Jr.**, of The Mead Corp. The new executives were elected during FBA's 21st annual meeting in New York. It was reported at the meeting that shipments of corrugated and solid fibre boxes for the first nine months of 1960 were only 1.6% below the total for the same period in 1959, which was a record year for the industry.



Stone *Cassady*

The appointment of eight new members to the planning council of the **American Management Assn.'s** Packaging Div. has been announced. They are: **G. Don Davidson, Jr.**, Jack's Cookie Corp.; **R. G. Edwards**, American Hardware Corp.; **R. P. Gardiner**, S. C. Johnson & Son; **Abe Kent**, Ideal Toy Corp.; **William L. Newman**, General Electric Co.; **John R. McCarty**, The Frito Co.; **George Ryan**, Abbott Laboratories, and **A. Kohr Sprenkle**, American Stores Co. The council consists of 22 executives serving AMA on a voluntary basis by providing advice and counsel in the planning of meetings held by the Packaging Division.

Greenwall

Frank K. Greenwall, chairman of National Starch & Chemical Corp., has been elected pres. of **Keep America Beautiful, Inc.** He succeeds the late **Cecil F. Dawson**, former director and consultant of American Can Co. During his 40 years' association with National Starch and predecessor firms, Mr. Greenwall has served in many capacities. He became company pres. in 1938 and held the office until elected as chairman in 1958.

Industry support of **Miami University's** courses in pulp and paper chemistry and techniques have been formalized through the organization of the **Miami University Pulp & Paper Foundation. Howard Whitaker**, chairman of The Mead Corp., is pres. of the new foundation. Support of scholarship assistance and equipment funds for the program will come through foundation memberships, based on the participating companies' size and volume.

Two new research reports are available in illustrated-booklet form from **A. C. Neilsen Co.** They are the "26th Annual

(*Continued on page 171*)

Events

Dec. 3-9—**Chemical Specialties Mfrs. Assn.**, 47th annual meeting, Hollywood Beach Hotel, Fla.

Dec. 10-14—**National Food Brokers Assn.**, convention, Palmer House, Chicago.

Dec. 14—**Food Packaging Council**, meeting, Congress Hotel, Chicago.

Jan. 8-13—**National Retail Merchants Assn.**, 50th annual convention, Hotel Statler, New York.

Jan. 9-14—**American Rack Merchandisers Institute**, tenth anniversary convention, Chicago.

Jan. 22-25—**National Canners Assn.** and **Canning Machinery & Supplies Assn.**, 54th annual canners show and convention, Conrad Hilton, Chicago.

Jan. 24-27—**Society of Plastics Engineers**, 17th annual technical conference, Shoreham Hotel, Washington, D. C.

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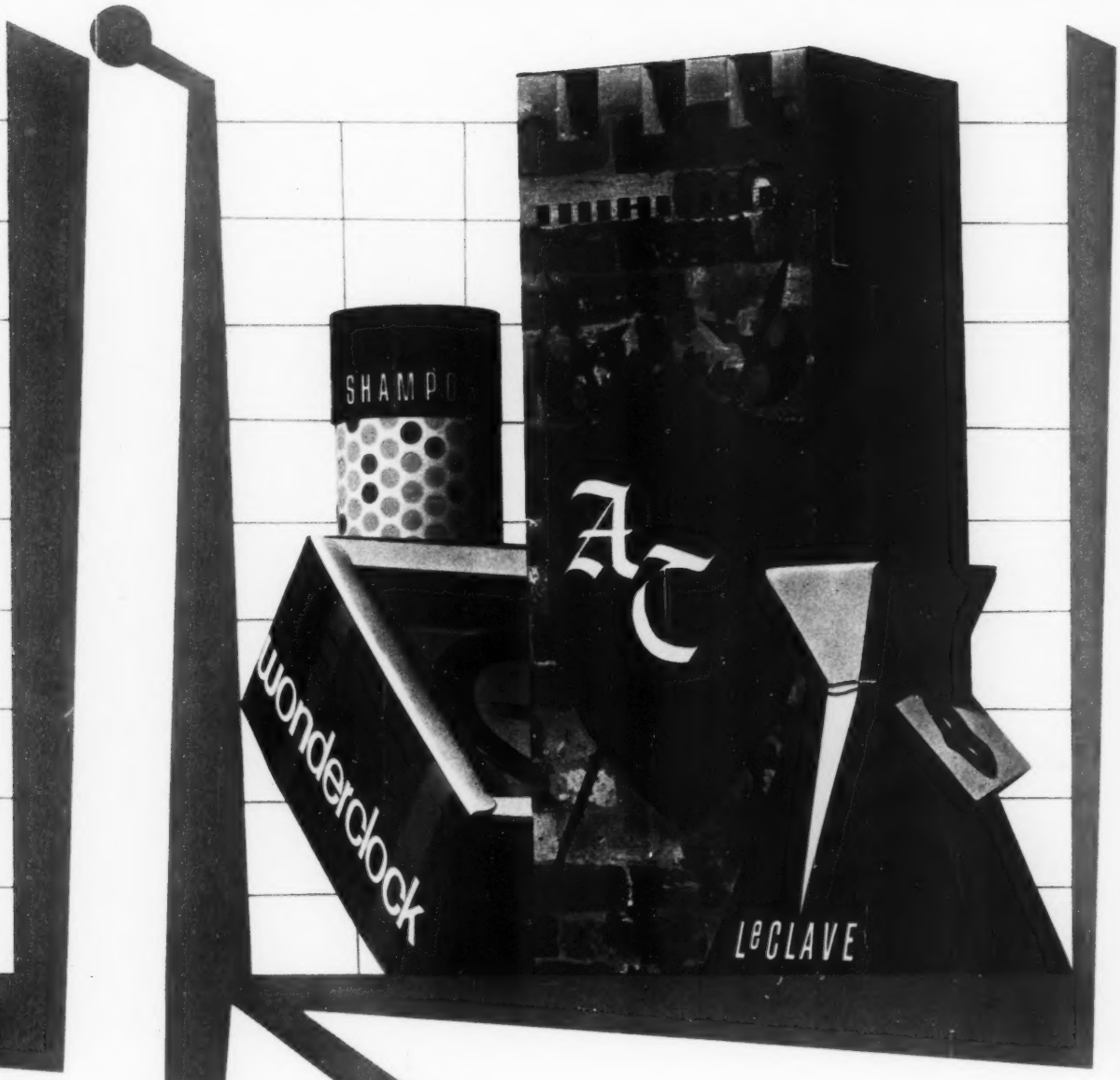

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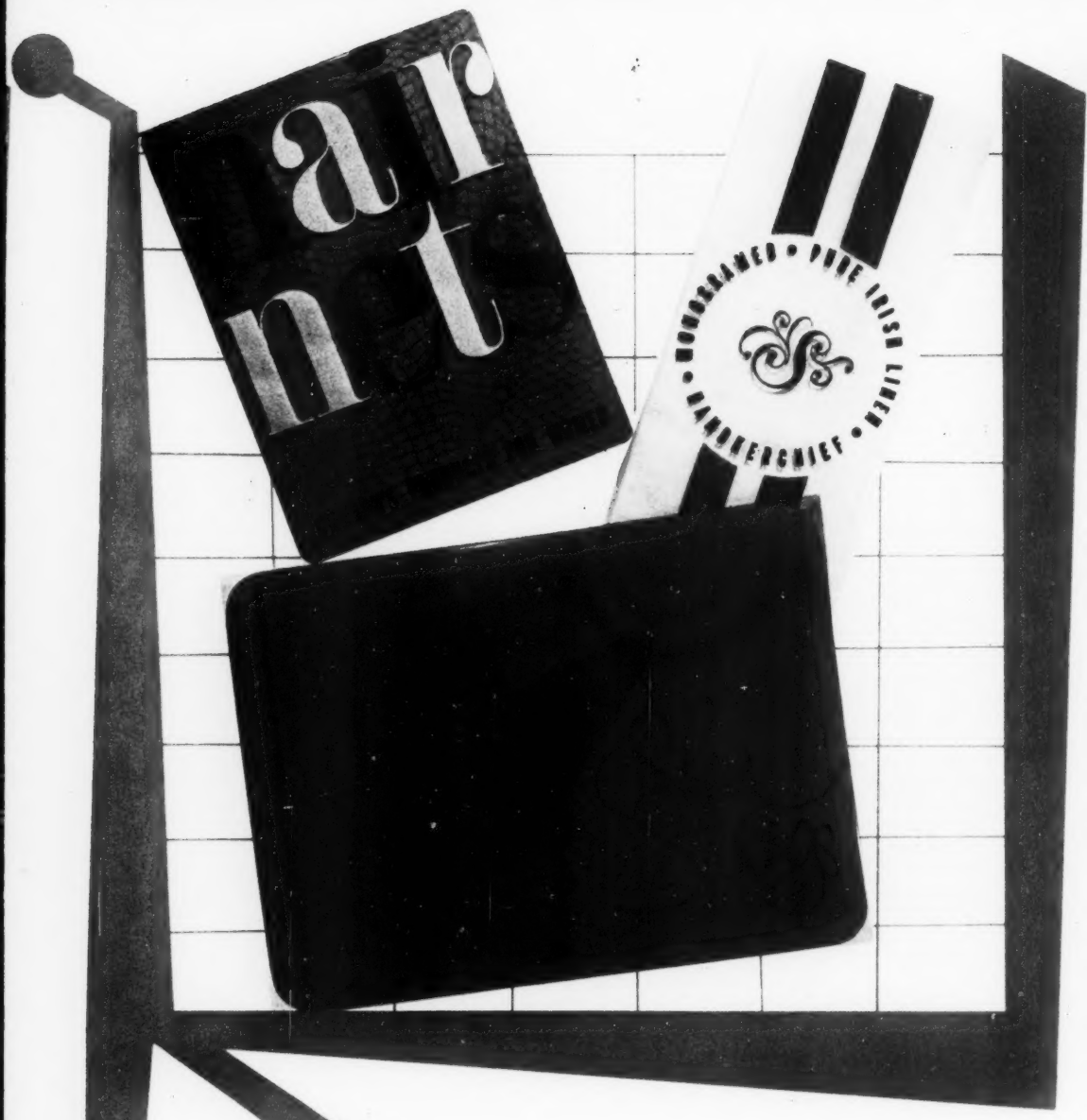

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into every package. Creative packaging with Trycite
sparks sales for small soft goods and stationery items, produce,
meat, baked goods . . . in window boxes . . . in laminations.

DOW

...and **RESINS**

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its own packaging demands.
And films produced from
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requirements . . . high gloss, excellent
clarity, tear strength, impact resistance,
tailored slip resistance. They're extremely clean and
free from odor and contamination . . . and
their closely controlled molecular weight range makes for
high uniformity in the finished film. You'll find a
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F.Y.I. *(Continued from page 164)*

Neilsen Review of Retail Grocery Store Trends" and the "26th Annual Neilson Review of Retail Drug and Proprietary Store Trends." The former indicates that food-store sales rose 3.5% in the first half of 1960 compared with the same period of 1959. Indicating the enthusiastic reception of convenience products by consumers, the report shows that—in five commodity lines—aerosol-packaged types of the products gained 50% in sales from 1957, while non-aerosol types of the same products made little or no gain. According to the drug-store trends report, retail sales were up 6.8% for the first half of 1960 compared with the first half of 1959. Sales in these stores passed the $7 billion mark last year and may reach $12 billion by 1970, the report states. Copies of both reports are available, at no charge, from A. C. Neilsen Co., 2101 Howard St., Chicago 45.

Some 500 U. S. and Canadian experts on pulp and paper research and technology met Oct. 10-13 at the Royal York Hotel, Toronto, for the 10th Corrugated Containers Conference, sponsored jointly by the **Technical Assn. of the Pulp & Paper Industry** and the Technical Section of the **Canadian Pulp & Paper Assn.** The program included technical papers and trips to container plants in the vicinity. Two topics, "Meeting Modern Trends for Improved Printing on Corrugated Board," and "New Developments in Packaging," provided the framework for most of the program. A general session was devoted to new equipment, research and production techniques for corrugated materials.

More than 350 people attended TAPPI's 15th plastics-paper conference in Syracuse, N. Y., Oct. 16-19. The program consisted of six major technical sessions and two field trips.

Speeches and a panel discussion on topics vital to aerosol industry management were featured on the Aerosol Div.'s program at the 47th annual meeting of the **Chemical Specialties Mfrs. Assn.** in Hollywood, Fla., Dec. 3-9. The div.'s session on Dec. 7 opened with three talks on fundamental business management topics. The second portion of the program was a panel discussion on "Quality Control In The Filler's Plant." **George Barr,** pres. of G. Barr & Co. and chairman-elect of the Aerosol Div., was moderator.

The **National Flexible Packaging Assn.** held its fall meeting at Boca Raton, Fla., Nov. 1-5. Among the subjects covered during the five-day event were the problems presented by the newer films—those other than cellophane and polyethylene, effective use of the new cellophane specifications, "boil-in-bag" packaging and how converted flexible packaging can do a better job. Speakers included **Emerson White** of Continental Can Co., **George R. Bell** of J. L. Hudson Co., **Wilson W. Cross** of Riegel Paper Corp., **Carl F. Foster** of Nashua Corp. and **R. S. Jones** of The Dobeckmun Co., Div. The Dow Chemical Co.

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U. S. Patents Digest

This digest includes each month the more important patents of interest to packagers. Copies of patents are available from the U.S. Patent Office, Washington, D. C., at 25 cents each in currency, money order or certified check. Postage stamps are not accepted. Edited by H. A. Levey.

Method of and Apparatus for Closing Glass Containers, Shepard L. Harmon and John Hohl (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,950,587, August 30. The method which consists of continuously moving filled unclosed jars in upright position and in succession along a horizontal path toward a cap-applying zone.

Automatic Packaging Machine, Alfred P. Gausman (to Hayssen Mfg. Co., Sheboygan, Wis., a corporation of Wisconsin). U.S. 2,950,588, August 30. In an automatic packaging machine, a former about which a continuous web of thermoplastic sheet material drawn from a roll is formed into a continuous tube, driven means mounted adjacent the inner end portion of the former for continuously pushing the web of thermoplastic material along said former.

Apparatus for Hooding Open-Faced Containers, Robert J. O'Brien and Gordon A. Vold (to Ekco-Alcoa Containers Inc., a corporation of Illinois) U.S. 2,950,590, August 30. In a hooding machine for applying a cover sheet to a container having a marginal rim bordering an open face thereof, the combination with a container-feed conveyor.

Apparatus for Testing Side Seams of Containers, Donald G. Magill (to American Can Co., New York, a corporation of New Jersey). U.S. 2,950,620, August 30. An apparatus for testing the rupture strength of side seams of open-ended cylindrical container bodies, comprising in combination an inflatable cylindrical tube having an outside perimeter slightly smaller than and substantially conforming to the inside perimeter of said container body.

Continuous Running Machine for Producing Box Blanks, Henry William Moser and George W. McGirr (to Samuel M. Langston Co., Camden, N.J., a corporation of New Jersey). U.S. 2,950,658, August 30. In a machine of the type described, a first mechanism for continuously advancing web material and a second mechanism relatively spaced from the first mechanism along the path of travel of said material.

Stackable Containers, Wickliffe Hollingshead (to R. M. Hollingshead Corp., Camden, N.J., a corporation of New Jersey.) U.S. 2,950,844, August 30. A container having a rupture-proof lacquer coating and provided with an upwardly projecting pouring neck of cylindrical configuration at one end of its top and a plurality of indentations in the bottom thereof whereby it can be stacked.

Carton Construction, James P. Corcoran (to Packaging Corp. of America, Rittman, O., a corporation of Delaware). U.S. 2,950,850, August 30. A carton construction comprising an outer unit and a removable inner unit disposed in nested relation within said outer unit; said outer unit having a bottom section and a side section extending upwardly therefrom.

Carton, Robert H. Ganz (to Continental Can Co., New York, a corporation of New York). U.S. 2,950,854, August 30. A wrap-around carton for packaging articles such as jars arranged side by side in rows, made from a single piece of paperboard wrapped around the ends and sides of the articles and fastened along overlapping edges into tubular form, comprising side and end walls.

Packaging Apparatus, Harry G. Podlesak, George Howard Kraft and Roland E. Miller (to National Dairy Products Corp., a corporation of Delaware). U.S. 2,951,324, Sept. 6. A wrapping machine which comprises means defining an elongated supporting platform, means for supplying at least one strip of flexible wrapping material to one end of said supporting platform, means for moving said one strip of wrapping material along said platform from said supplying means, said platform being arranged in such a manner that the units to be packaged may be placed in spaced-apart relationship upon moving said one strip.

Container-Sealing Apparatus, Frederick E. Fauth (to Crown Cork & Seal Co., Baltimore, a corporation of New York). U.S. 2,951,327, Sept. 6. In a mechanism to secure a cap element provided with threaded-type engaging means to a threaded-type container element mouth, means to move the container element and a loosely applied cap element in a predetermined path.

Display Carton, Stuart P. Sanford (to Westinghouse Electric Corp., East Pittsburgh, a corporation of Pennsylvania). U.S. 2,951,583, Sept. 6. A display carton fabricated from a unitary blank cut, scored and assembled to provide a bottom wall, front and back walls having depending portions which are interlocked to form a pair of side walls.

Produce Container and Tray Insert, Robert Kent Schwebs (to Cornell Paperboard Products Co., a corporation of Wisconsin). U.S. 2,951,624, Sept. 6. In a device of the character described, the combination of a shipping container, a plurality of separate and independent elongated article trays stacked in vertical and horizontal series, said trays comprising carrying means and being independently removable from the container for article display purposes.

Snap-Top Paperboard Box, Frederick A. Wenzel (to Cornell Paperboard Products Co., Milwaukee, a corporation of Wisconsin). U.S. 2,951,627, Sept. 6. As a new article of manufacture, a collapsed carton comprising in series connection carton side, front and rear panels and insert side, front and rear panels, the panels being defined by fold lines and the several panels constituting the carton having top-constituting portions at their ends.

Combined Food Packaging and Cooking Container, John Robson (to Reynolds Metals Co., Richmond, Va., a corporation of Delaware). U.S. 2,951,765, Sept. 6. A combined packaging and cooking container for food, said container having an interior cavity for receiving food and a laminated sheet extending over said cavity and comprising an outer layer of bright reflective metal and an inner layer of thermoplastic film having a melting point substantially above the boiling point of water.

Wrapping Device, Milton O. Schur (to Olin Mathieson Chemical Corp., New Haven, a corporation of Virginia). U.S. 2,952,105, Sept. 13. A method of wrapping a plurality of axially aligned rod-like articles disposed in a group, comprising the steps of providing a moving carrier having a plurality of pockets.

Multiwall Bag Construction, Robert F. Searle (to Arkell and Smiths, Canajoharie, N.Y., a corporation of New York). U.S. 2,952,399, Sept. 13. A bag of the type having walls of a plurality of plies of paper having a portion of the wall along each side folded inwardly and sharply creased to form a gusset with two outside crease lines.

Method of and Apparatus for Coating Containers, Ronald E. J. Nordquist and Leif N. Brager (to American Can Co., New York, a corporation of New Jersey). U.S. 2,952,567, Sept. 13. A method of applying a film of fluid liquid-proofing material to the interior and exterior surfaces of an empty container having a dispensing opening therein, comprising the steps of inserting the container in a bucket with said opening uppermost.

Packaging Machine, Philip G. Perrin, Sunland, Calif. U.S. 2,952,954, Sept. 20. A method of packaging articles in a flexible container with a reciprocating carrier, comprising the steps of loading the articles on the carrier, gripping an empty container and thereafter moving the empty container to a loading position to place an open end of the container in the path of the carrier.

Container-Filling and Closing Machine, Thomas E. Piazze (to Continental Can Co., New York, a corporation of New York). U.S. 2,952,959, Sept. 20. A bag-closing machine having a continuously traveling horizontal conveyor for supporting filled bags in upright

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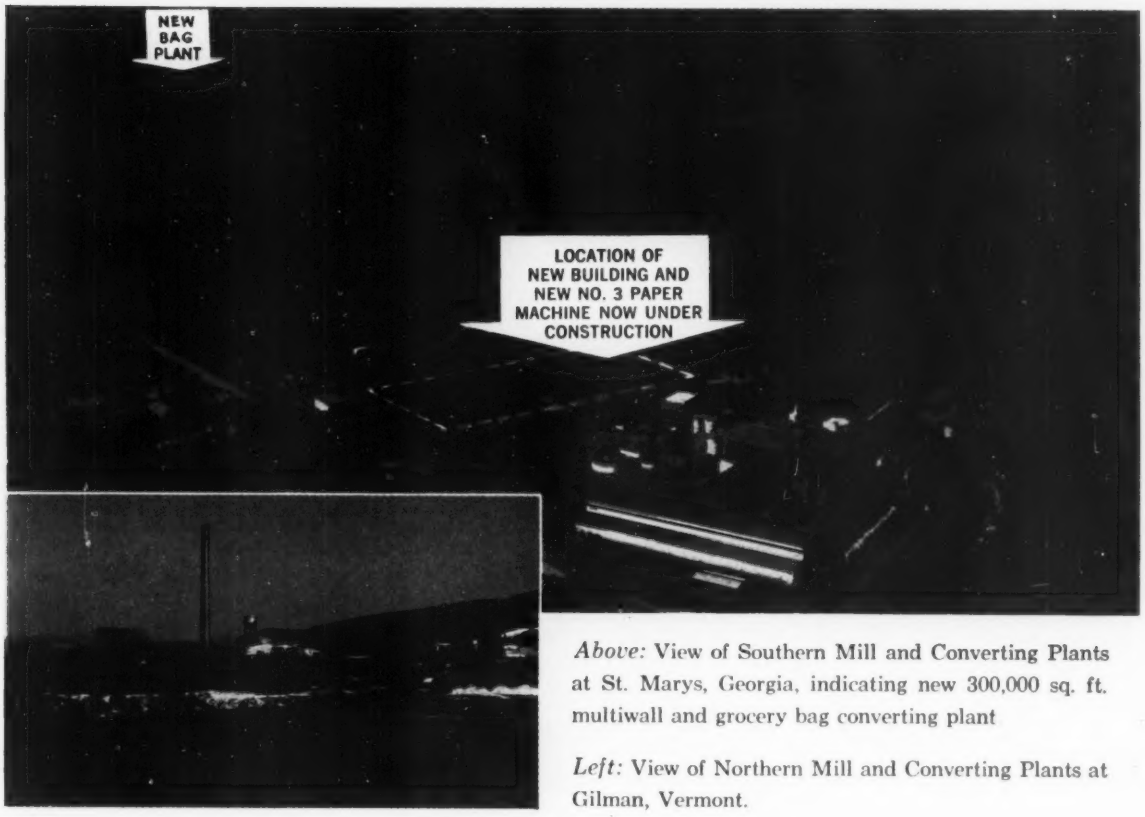

Above: View of Southern Mill and Converting Plants at St. Marys, Georgia, indicating new 300,000 sq. ft. multiwall and grocery bag converting plant

Left: View of Northern Mill and Converting Plants at Gilman, Vermont.

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Patents *(Continued)*

position, a bag-top tucking station, a fixed stand adjacent said station and a bag-top tucking device mounted for vertical adjustment on said stand.

Packaging Machine, Richard C. Talbot and Wayne S. Madden (to J. L. Ferguson Co., Joliet, Ill., a corporation of Illinois). U.S. 2,952,960, Sept. 20. In a machine for folding the open end of a bag-like container in preparation for sealing said open end, such container being filled to a predetermined level and being mechanically advanced to and past such machine.

Bottles and Closure Cap for Same, John Hohl and George V. Mumford (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,953,271, Sept. 20. In combination, a bottle having a mouth-defining neck rising therefrom, said neck formed with an annular downwardly facing closure-retaining abutment spaced from the mouth end.

Bottle Stopper, Paul Gschwent and John M. Sharf (to Armstrong Cork Co., Lancaster, Pa., a corporation of Pennsylvania). U.S. 2,953,273, Sept. 20. The combination of a closure with a container having a crown-tirage finish and an outward radial projection disposed below the crown-tirage finish, said closure being made of a relatively stiff elastometric plastic composition.

Dispensing Container, Burton Sellinger (to Colgate-Palmolive Co., Jersey City, a corporation of Delaware). U.S. 2,953,304, Sept. 20. A multi-discharge valved dispensing container for a pressure-propelled product, comprising an upright cylindrical outer casing having a discharge outlet at the top.

Method of Forming Plastic Containers, John G. Miller and Raymond H. Rex (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,953,817, Sept. 27. The method of making an article of moldable plastic material, which method comprises extruding a portion of the material through an annular outlet orifice into the open and thereby forming a tubular section of the material while subjected externally to atmospheric pressure.

Method and Apparatus for Vacuum Sealing Packages and the Like, James R. Chapman and Otto R. Weber (to Reynolds Metals Co., Richmond, Va., a corporation of Delaware). U.S. 2,953,877, Sept. 27. The method of vacuum sealing a package having contents in a main body surrounded by air at atmospheric pressure, and having a double-sided evacuating throat.

Wrapping Machine, Elmer D. Sramek and Walter H. Vogel (to F. B. Redington Co., Bellwood, Ill., a corporation of Delaware). U.S. 2,953,880, Sept. 27. In a machine for wrapping articles, a common drive means, an endless conveyor having a plurality of spaced article-carrying pockets, a wrapping sheet-receiving station adjacent said conveyor, means connected to said common drive means for driving said conveyor and aligning successive pockets successively with said sheet-receiving station.

Apparatus and Method for Automatically Packaging Articles in Wrapper Blanks, Hermond G. Gentry (to Mead Packaging, Inc., a corporation of Ohio). U.S. 2,953,883, Sept. 27. Apparatus for packaging articles in an elongated wrapper blank of substantially rectangular form, comprising a folding station arranged to receive and support a package group of said articles.

Method and Apparatus for Forming Seams in Multiwall Bags, Willard E. Hahn (to St. Regis Paper Co., New York, a corporation of New York). U.S. 2,953,976, Sept. 27. In combination with a bag-tubing machine of the type having a tube former and smoothing rolls, equipment for forming bag tubing thereon in which the inner ply includes a film liner having a film-to-film seal.

Banding Device for Wrapping Machines, Clarence N. Lithio (to Rap-in-wax Co., Minneapolis, a corporation of Minnesota). U.S. 2,954,069, Sept. 27. In a wrapping machine having means for supporting a supply roll of wrapping material in web form, drive means for drawing the web from said roll and delivering it to the wrapping mechanism of said machine and reserve-supply roll-support means adapted to support a supply roll of banding material.

Rupturable-Seal Package with Sterilized Moist Contents, Henry F. Maso and Joseph N. Masci (to Johnson & Johnson, New Brunswick, a corporation of New Jersey). U.S. 2,954,116, Sept. 27. A hermetically sealed package having contents sterilized therein, which comprises a pair of laminated sheets with the contents between them, the edges of said sheets overlapping and extending beyond the edges of said contents to provide edge portions of said sheets around the edges of said contents.

Dispensing Container, Andrew L. Corrinet and Joseph H. Fredette (to American Can Co., New York, a corporation of New Jersey). U.S. 2,954,148, Sept. 27. A container having a member provided with a dispensing opening, a closure member mounted on said container member for movement over said dispensing opening.

Display Carton, Kenneth T. Buttery and Louis M. Gilbert (to KVP Sutherland Paper Co., Kalamazoo, a corporation of Delaware). U.S. 2,954,151, Sept. 27. In a carton, the combination of an inner carton member comprising a base panel, end walls of a length corresponding to the width of the base panel hingedly connected thereto.

Collapsible Polyhedral Carton, Kenneth T. Buttery and Thomas Vanderlugt (to KVP Sutherland Paper Co., Kalamazoo, a corporation of Delaware). U.S. 2,954,152, Sept. 27. A collapsible carton formed of a sheet of fibreboard cut and scored to provide six hingedly connected side walls of uniform dimensions and a sealing flap at one side of the sheet, of dimensions approximately corresponding to the dimensions of the side walls and fixedly secured to the side wall at the other side of the sheet.

Carton-Feeding Device, Robert K. Galloway (to Food Machinery & Chemical Corp., San José, Calif., a corporation of Delaware). U.S. 2,954,227, Sept. 27. A carton-feeding device comprising a magazine adapted to support a supply of upright folded cartons and having an open discharge end, a guide frame arranged transversely of the magazine in spaced relation with the discharge end of the magazine.

Sales Come Alive
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Food needs robust packaging to sell on today's crowded shelves. Here are five new ways major food producers are using Western-Waxide packages to keep sales healthy and growing. For complete details on any or all of the packages shown, write: Warren Townsend, 2101 Williams Street, San Leandro, California.

FRITOS* CORN CHIPS POUCH: New method of pouch packaging replaces bags . . . offers lower production costs.

CHET'S BOILABLE POUCH: This gleaming aluminum pouch for prepared frozen foods needs no carton or overwrap. The crisp four-color printing resists boiling water.

H. J. HEINZ BABY CEREAL OVERWRAP: Six-color rotogravure printing makes this Western-Waxide wrapper sparkle with eye appeal—color coding identifies varieties. Machine overwrapped from roll stock.

HORMEL BACON PACKAGE: The semi-rigid five-color Mullinix Peek-A-Boo® package keeps displays neater and bacon fresher. The flap provides light protection, strong visual impact, and allows shoppers to inspect the contents.

REAL FRESH MILK, INC.: New low cost, paper / foil / polyethylene laminated Tetra Pak package protects whole sterile milk against contamination—without refrigeration.

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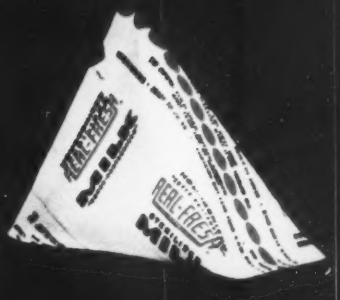

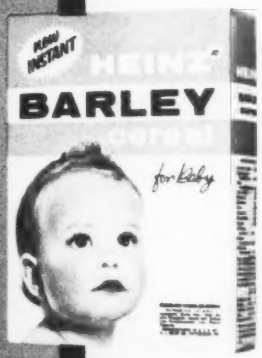

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PI Packaging Forum

[Continued from page 113]

around the packaging operation and constructed in three dimensions over three floors. To achieve these levels of invention, *Robert J. Kelsey*, Engineering Editor of MODERN PACKAGING, called for new programs of basic mechanical research, supported by both machinery and materials manufacturers, control of performance specifications for thermoplastic films and more imaginative packaging machines with efficiency equal to the natural advantages of modern packaging materials. The afternoon session chairman was *Ira Gottscho*, Adolph Gottscho, Inc.

Flexible packaging and plastics

The first presentation of 12 strikingly new techniques for the application of shrinkable irradiated polyethylene film in packaging was a key feature of the Flexible Packaging and Plastic Seminar. Ranging from wraps and bands to tapes and "lids," the proposed applications of this new oriented material may create a new dimension in flexible packaging, according to *R. D. Lowry*, Cryovac Div. of W. R. Grace & Co. The increased use of aluminum foil in the packaging field was dramatized by a prediction by *Dr. M. L. Miller*, Aluminum Co. of America, that 111 million lbs. of this flexible metallic wrap will be consumed annually by 1970. Asserting his faith in the eventual development of a "flexible metal can," Dr. Miller showed the present progress in foil packaging with a number of slides.

A progress report on current applications of polypropylene film by *Dr. E. T. Severs*, AviSun Corp., produced the interesting statistic that 12 million loaves of bread per day are now wrapped in this new polyolefin material. And *O. R. Johnson*, Crown Zellerbach Corp., summarized the future for the entire flexible packaging field with the prediction that there will be a heavy demand for such materials by 1970 for consumer packaging of both fruit and vegetable dehydrates. *Edward G. Penn*, Riegel Paper Corp., served as chairman of the seminar.

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"unplanned obsolescence," day-to-day scrutiny of packaging by the food manufacturer was recommended at the Food Packaging Seminar by *Carl D. Schoby*, Armour & Co. *Robert N. Johnson*, Processed Foods Div., The Kroger Co., cited as a major problem of the food packager the reluctance of packaging materials suppliers to give safety guarantees. *Dr. Walter A. Maclinn*, The Refrigeration Research Foundation, indicated that package fatigue and failure, caused by extreme humidity changes in refrigeration warehouses, are serious detriments to the economy. A strong plea to shipping-container manufacturers to design more structural strength into their containers was made by *Franklin D. Vencell, Jr.*, of The Minneapolis Cold Storage, and The Refrigeration Research Foundation, who sees inadequately designed units as prime causes for automation delay in refrigeration warehouses. According to *Idolph Miller*, Milprint, Inc., converters must consider the long-range effect of the Food Additives Amendment, because increased financial burdens may stifle development of new materials. *W. Earl Graham*, Clayton Corp., forecast an excellent future for aerosol foods through improved propellants, new piston systems and especially product reformulation. *Fred W. Schreiber*, Lever Bros. Co., presided as chairman of the seminar.

Closures

At the closure session *Nicholas Marchak*, Bradley Sun Div., American Can Co., stressed the importance of a better understanding of closure design with a view to correcting mistakes caused by badly used caps. He mentioned polypropylene as a new closure material and the gains made by new-formula polystyrenes. Problems of torque control, the handling of polyethylene containers, decorative and metalized caps on both old and new capping machines were discussed in detail by *Edward L. Kuhn*, Consolidated Packaging Machinery Corp. Mr. Kuhn pointed out the progress toward greater speeds and said rates of 400 to 600 for threaded caps will not be unusual by 1970.

With a chart illustrating the most-popular types of closures used for food packaging in France, *Gerard de Piolenc*, of Saint-Gobain, Inc., France, indicated the growing interest in twist-type closures in Europe. *Charles J. Jacobs*, market director, W. R. Grace & Co., Overseas Chemical Div., gave a quick round-the-world tour of closure styles as they relate to market size, standards of living, food habits and availability of materials. *Herbert F. Wheaton*, vice president operations, American Flange & Mfg., headed the seminar.

Petroleum packaging

The work of PI's Petroleum Packaging Committee in developing standards for a broad variety of petroleum-industry containers highlighted an open meeting of this group. Speaking on trends in lubricating-grease packaging, *Fred W. Langner*, Socony Mobil Oil Co., noted that initial work of standardizing the sizes and construction of grease packages has paved the way to further improvements and cost reductions. *K. W. Lenhart*, Sinclair Refining Co., discussed experiments with new shipping containers for motor-oil cans.

A review of small-container standards promulgated by the small metal packages subcommittee and now adopted by the American Standards Assn. was given by *F. Norton Landon* of Sun Oil Co. Reading a paper prepared by *I. N. Wade* of Gulf Oil Corp., he also described the development of a stackable 5-gal. pail with removable spout that is less costly and more convenient than its predecessor. The progress that has been made in petroleum-product shipping practices was outlined by *C. H. Ficken*, assistant general traffic manager, Mobil Oil Co. Growing in importance, he said, are collapsible bulk containers made of rubber or plastic combinations. *Harry F. Kielhorn* of Cities Service Oil Co. told of developments in shipping and packaging techniques that assure product delivery with a minimum of container damage. *L. E. Stuart*, Continental Oil Co., was seminar chairman.

Printing

For brilliant, striking effects on modern miracle materials, flexographic printing is eminently suitable, according to the Flexographic Printing Seminar's moderator, *Julian Ross* of the Flexographic Technical

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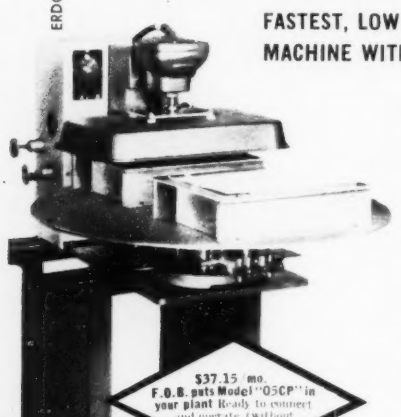

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Manufacturers of blister packaging machines that feed, form, seal, die-cut automatically

here's the essence of persuasive packaging

Gardner Sales Representative

Gardner Market Research

Gardner Structural Design

Gardner Graphic Design

Gardner Machine Application

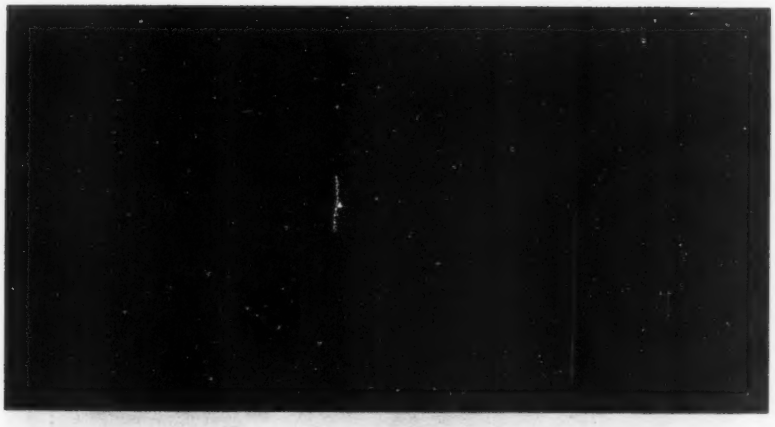
Gardner Package Testing.

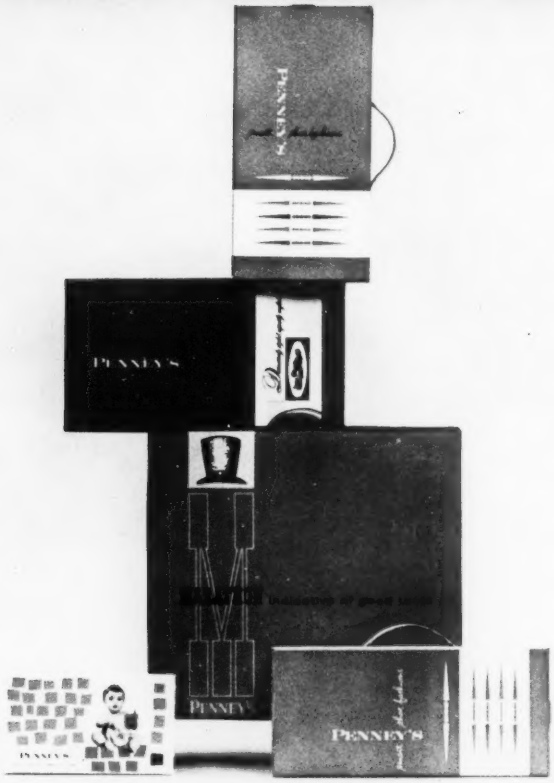
HYPOTHESIS MEETS THE HOUSEWIFE! If your new Persuasive Package gets the "go" signal here, you've got a best seller on your hands. Up to this point, your new Persuasive Package is just a good packaging idea. Market Research told us what your package should be and the Structural Design contributed the shape and function. Graphic Design added the flair. The question now is will she buy it? Gardner Package Testing will furnish the answer. ¶ Success here supports hypothesis to (continuing on the wall — an important line on your profit chart, going up! If we detect a glaring weakness in the design, the package goes back to the drawing board for an optimizing reappraisal. ¶ Gardner Package Testing can help you get the most controlled current testing. Even how you might need those consumer panels to obtain market tests. ¶ In Persuasive Packaging, this kind of resourceful, completely coordinated approach you want for your packaging program!

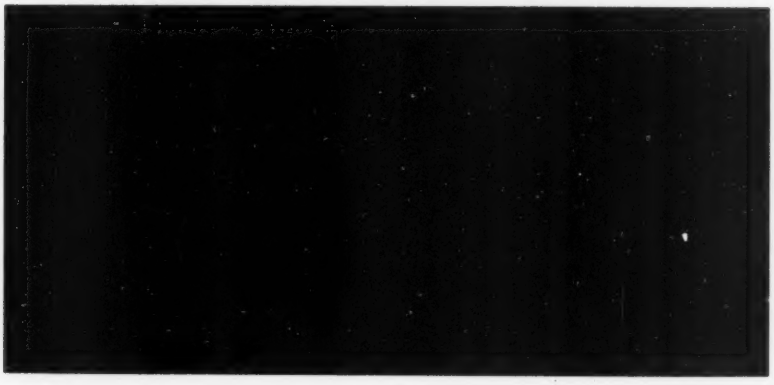
DIAMOND NATIONAL
THE GARDNER DIVISION
MIDDLETOWN, OHIO

EXAMPLE OF GARDNER PERSUASIVE PACKAGING

Whenever you see a J. C. Penney store, you'll see Gardner Persuasive Packaging on the job. Chances are, it'll be **Redi-Tote**, the best thing that's happened to shoe boxes; or the new **Redi-Topper** (a hat box, what else?). Both are perfect examples of Gardner's all-round packaging ingenuity. We invented 'em. ¶ Actually, J. C. Penney was the first major retailer to see the merits of, and demand **Redi-Tote**. So recently, when one of our Sales Representatives suggested adapting the **Redi-Tote** principle for packaging other products, we took the idea to Penney. They liked it. **Redi-Topper** is the result. ¶ Penney supplied the appealing graphic design. Gardner **Structural Design** made structural modifications, including an easier opening, better-holding locking top. Gardner Machine Application specialists journeyed to the factories of the firms who supply Penney with men's hats to insure efficient and economical handling of the new **Redi-Topper** on their machines. ¶ Another example of Gardner's creative concept of total packaging service—Persuasive Packaging. Got a new packaging program coming up? We'd like to show you what we can do.







DIAMOND NATIONAL
THE GARDNER DIVISION

Assn. Considerations for the designer were discussed by *Karl Fink*, Karl Fink & Associates, who recommended this printing method for the visual effects it carries out especially well, such as in color brilliance and the use of metallic and white inks. *Sam Ritman* of Wrapture, Inc., gave the printer's viewpoints on flexography and urged designers to be aware of limitations and to compensate for them so original concepts in this important area would not be destroyed.

Douglas Tuttle, Printing Ink div., Interchemical Corp., cited such flexographic equipment advances as larger, heavier and more accurate models, better controls and drying systems, faster speeds, better quality results, more accurate ink control. The most rapid progress, said *Robert Zuckerman*, Kidder Press Co., Inc., is in automatic control—for ink distribution and drying, register and tension. Quality control of full color is flexography's biggest challenge, said *Edwin W. Wiegand*, The Yoder Engraving Co., who discussed the custom making of plates. Mr. Wiegand said that improvement can be made through close cooperation between the photo-engraver and the plate maker.

The Letterpress Printing Seminar was told that at least 60% of carton printing is by letterpress. This estimate was given by *William D. Hall*, Folding Paper Box Assn. of America, session moderator. Speaking as both printer and designer, *Albert Kner*, Container Corp. of America, detailed the critical areas in letterpress for achieving best results and the elements designers must consider for better communication on packages. Mr. Kner stressed the ability to analyze engraving, pointing out that printing can be no better than the plates themselves.

Such modern developments in photo-engraving as powderless etching and the newer materials and methods for electrotyping were discussed by *Dr. Martin Rogers*, Director Photoengraver's Research, Inc. *J. Mel Kernan*, Ohio Boxboard div., Packaging Corp. of America, compared advantages and disadvantages of all printing processes and pointed out that competition is giving impetus to advancements in letterpress. Seminar chairman was *Ernest A. Green*, Printing Ink div., Interchemical Corp. ●

The
CROCKER LINE
of
"IMPULSE" PACKAGING

Now, from one source:
FULL COLOR *packaging for all major retail departments, at low prices!*

MEATS—Stoplite pressure sensitive and heat seal labels (work ideally with Saran); Hobart, Toledo and National price tags; P-o-P material.

CANDY bag tops; box wraps; folding cartons; pressure sensitive and heat seal labels.

BAKED GOODS pressure sensitive, heat seal labels; box wraps; folding cartons; cookie bag tops.

CANNED, FROZEN labels; folding cartons; shelf talkers.

RACK ITEMS blister cards; folding cartons; labels. *Plus* P-o-P banners, price cards, backbar and window streamers; shelf talkers for all departments!

H. S. CROCKER CO., INC.
San Francisco 720 Mission • Chicago 350 N. Clark
Los Angeles 1151 W. 6th • New York 11 W. 42nd
Detroit 19600 W. McNichols • Baltimore St Paul & 24th
Seattle 327 Colman Bldg. • Portland 1325 S.W. 13th

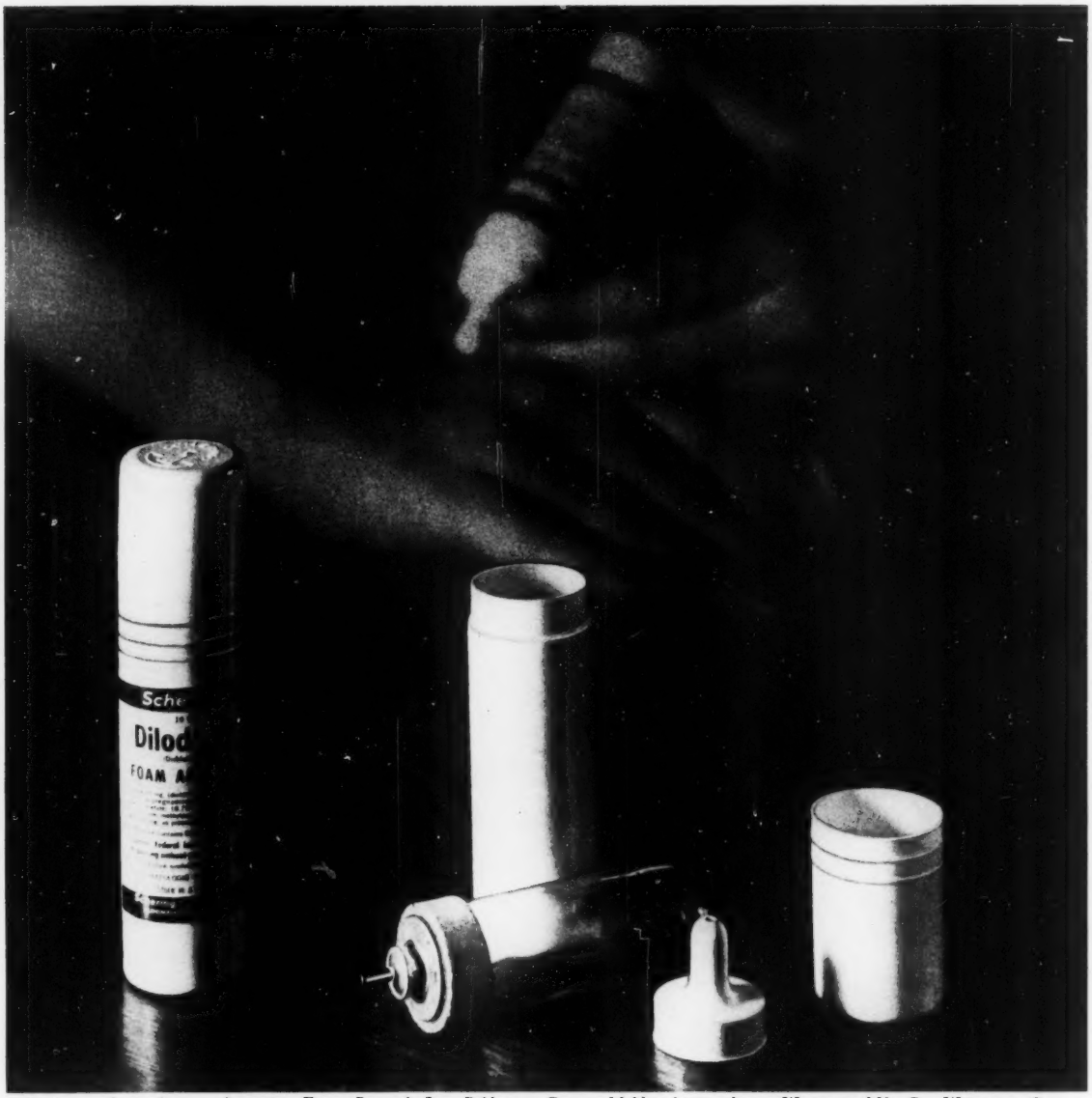
Now from 1 source

EXTRUSION
POLYETHYLENE
PRINTING
CONVERTING

TOWER

The reason we start with the resin: It lets our experienced personnel ride-herd on every operation from flake to film to filling machine — gives us absolute control of product quality and customer service. *We* like it this way — and think *you* will, too! Lean on TOWER, above all, for a realistic, sales-minded solution to any of your flexible packaging problems.

TOWER PACKAGING COMPANY, an ultra-modern, all-in-one plant in **WHEELING, ILLINOIS,** a suburb of Chicago



Designer and manufacturer of actuator: Emson Research, Inc., Bridgeport, Conn. • Molder of cap and case: Watertown Mfg. Co., Watertown, Conn.

Schering Corporation chooses SUPER DYLAN® aerosol "metering" containers

To provide a shatter-proof case for Schering Corporation's Diloderm Foam, the package designer selected SUPER DYLAN high-density polyethylene, a Koppers plastic. When you press the actuator cap on this tough SUPER DYLAN aerosol case, a concealed Emson metered valve* automatically releases the correct amount of dermotologic foam.

SUPER DYLAN is strong, lightweight, non-corrosive, and chemically inert. It has low permeability, and good heat and dimensional stability. SUPER DYLAN also has a smooth, glossy finish . . . it makes a better-looking package and *it keeps costs down.*

SUPER DYLAN can also give your product a better package at lower cost. Write for more information on SUPER DYLAN and its applications. Koppers Company, Inc., Plastics Division, Dept. MPG 120, Pittsburgh 19, Pennsylvania. Koppers also makes these other fine plastics for packaging: DYLENE® polystyrene, DYLAN® polyethylene and DYLITE® expandable polystyrene.

*Reg. U. S. Pat. Off. Emson Research, Inc.

KOPPERS PLASTICS

Carton by **U. S. Printing & Lithograph,** Division of Diamond National Corporation. Other fine **Seagram** products come to you in gift packages of **Anaconda Aluminum** foil carton board produced by **The Lord Baltimore Press, Inc.,** subsidiary of International Paper Company.

NEW CROWNING GLORY FOR THE KING OF WHISKEYS!

. . . presenting Seagram's 7 Crown gift package of sparkling Anaconda Aluminum foil

The unchallenged king of whiskey sellers since 1946 is now offered in this handsome 1960 holiday gift package of Anaconda Aluminum foil carton board! Seven embossed golden crowns on each side of the carton symbolize the quality of the gift . . . a decanter of famous Seagram's 7 Crown Whiskey.

To dress up your product for giving—and selling—talk over your packaging opportunities now with your nearby Anaconda Aluminum representative. And for the helpful booklet, "*Aluminum Foil Design*", write Anaconda Aluminum Company, Dept. ML-12, Louisville 1, Kentucky.

When you buy foil for packaging or printing, remember . . . every industry has one member who specializes in customer satisfaction

ANACONDA ALUMINUM

ANACONDA ALUMINUM COMPANY • GENERAL OFFICES, LOUISVILLE, KENTUCKY

Film and foil seminar

New York's Hotel Astor was the scene recently of a three-day Packaging Orientation Seminar on film and foil packaging, sponsored by the American Management Assn. With emphasis on new applications for consumer packaging, panel members examined and discussed methods for exploiting these materials fully in terms of products, the marketplace and consumers. The meeting was conducted under the chairmanship of Paul Bolton, the Carnation Co., and Richard Zoeller, The Pillsbury Co.

First speaker on the program was Shy Rosen of Milprint, Inc. Choosing as his topic "The Consumer Package in 1961," Mr. Rosen stated that flexible packaging has a wider range of adaptability than any other single group of containers. He predicted that the use of film and foil packaging would show great gains in 1961 and the years ahead, not only for foods, but in almost all fields of consumer goods.

The opening day of the seminar also featured a panel presentation titled "Selecting the Right Package for the Product." Panel speakers discussed the requirements, problems and opportunities involved in the selection of packaging materials.

Highlight of the seminar's second day was a new-package panel on the subject: "Case Studies: Enhanced Products." Among the speakers was George Hill, assistant director of research and development for Ward Baking Co., who reviewed the packaging requirements for bread and told how they led to Ward's adoption of polypropylene film as a bread wrap. (See "The First Polypropylene Wrap," MODERN PACKAGING, Oct., 1960, p. 109).

Another member of this panel was Arthur H. Morris, sales supervisor, dairy program, Sunkist Growers. Mr. Morris outlined the steps in the development of a package for Sunkist Frozen Juice Bars. He reported that a foil-laminated carton was selected because of its quality appearance, its insulative and protective properties and because it occupies minimum space in dealers' frozen-food cabinets.

New-package case studies also was the subject of a panel discussion on the final day of the seminar. H. B. Schiff, director of packaging

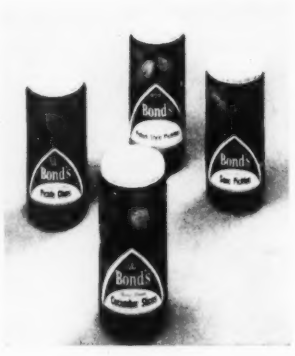
Standard's marketing approach to packaging pays off... in many unusual ways

Saw blade package wins blue ribbon in sharp competition

This saw blade package buzzed through the 1959 Folding Paper Box competition, winning first prize in the hardware class. Made by Standard's *Bradley & Gilbert Division* for Sears-Roebuck's "Craftsman" line, the package opens like a book, stands on edge for effective counter display. It contains two blades which the shopper can examine without removing from the package. And as a final "extra," the package is perforated in the center so blades can be sold singly.

FLEX-VAC package sells consumers 14-1

The power of graphic display has seldom been more emphatically proved! In a recent store test by the Alpha Beta food chain, this FLEX-VAC package outsold competitive packages 14-1. Alpha Beta vacuum packs its cheese on Standard's 6-12 FLEX-VAC machines, attributes the sales increase to the crystal clarity of the film, which fits so snugly that shoppers "can almost count the pimientos!"



Colorful label sweetens customers

Purchasers were plenty peeved at picking up *plain* pickles in place of *Polish* pickles, and vice versa. Bond Pickle Company asked Standard's *Allegheny-Fuller Division*, "How can we label individual varieties and still maintain brand identity?" The solution: one design for all, but a special *color* for each. Now customers can pick the right pickles instantly. Stores report that color-coding saves stock-taking time, too!

FILM • FOIL • PAPER AND BOARD PACKAGING • PAPER PLATES • CUPS • BOWLS AND TRAYS • FINE PRINTING AND BUSINESS PAPERS • PAPERBOARD AND PULP STOCK

ALL FROM ONE COMPLETELY INTEGRATED, CONVENIENT SOURCE:

STANDARD PACKAGING CORPORATION

Imagine a stack of beer bottles high enough to reach the moon. Now, add a second stack two-thirds as high. That's how many beer bottles carried foil and paper labels made by Standard's *Allegheny-Fuller Division* last year. Plus a few *billion* more for other bottled and glass-packaged goods. Why? Because Standard not only has all the equipment and facilities—the materials, methods and machinery. It has the *men*, too. Designers and engineers of imagination and curiosity who'll try anything —in any phase of packaging and labeling—that will enhance the consumer appeal of a product. Or, make it *easier* to package. Do you have a product that is not selling as it should? Perhaps Standard's packaging consultants could be of help.

STANDARD PACKAGING CORPORATION, Executive Offices: 200 East 42nd Street, New York 17, New York

General Mills uses

SEAL-SPOUTS

for

perfect packaging

General Mills, as a final step to perfection in packaging their new PROTEIN PLUS hot oat cereal, added SEAL-SPOUTS for

EASIER OPENING
EASIER POURING
EASIER STORING

For a plus value, Seal-Spouts have established consumer acceptance and preference for aluminum pouring spouts.
And for production economy, Seal-Spouts are automatically applied to the package right in the production line.
If you package free-flowing products, Seal-Spouts will help you sell them

SEAL SPOUT Corp.

MOUNTAINSIDE, NEW JERSEY

for W. T. Grant Co., told how the chain has built up its soft-goods sales volume via film packaging. He cited as one example Grant's success in gift packaging women's blouses in polyethylene bags. Individual gift boxes, said Mr. Schiff, were ineffective because they did not show the contents or colors. The company developed a film bag with an opening in the center that permitted customers to feel the fabric without removing the garment. Printing on the bag in metallic inks and inclusion of a foil-laminated gift card satisfied the requirements of a holiday gift package.

On the same panel was Julian T. Barksdale, vice president of marketing, Stephen F. Whitman & Son. He pointed out that film and foil packaging is particularly important to such "semi-luxury" products as candy, which must appeal to the consumer's sense of sight. He also noted that printed film box overwraps can provide more beautiful package decoration at lower cost than printing on the box itself. ●

To stop 'design drift'

[*Continued from page 39*]

purple for "Pick Up." Chain-store packages, with the brand name "Mirage," have only line drawings of the garment on the front panel, with outline frame printed around all cartons, thus distinguishing them from the department-store line. Similar design treatment is used for "Miss Mirage" packages—containing garments for young teenagers, also sold through chains. Back panels contain all product information and washing instructions. And in the case of the "Miss Mirage" packages, the back panel contains a chart of size measurements. There is also a tag now attached to each garment repeating washing instructions to assure proper care of the product by the consumer.

Individual folding boxes are now sized so they fit either three or four to the standard-sized shelf box, thereby helping to cut shipping and inventory costs and to facilitate stock keeping and display.

The program has received such enthusiastic response from retailers that Peter Pan is now working closely with the designer to develop a similar program for girdle, panty and other Peter Pan products. ●

another good reason why you should call Ball first*

* MARKETING RESEARCH ASSISTANCE

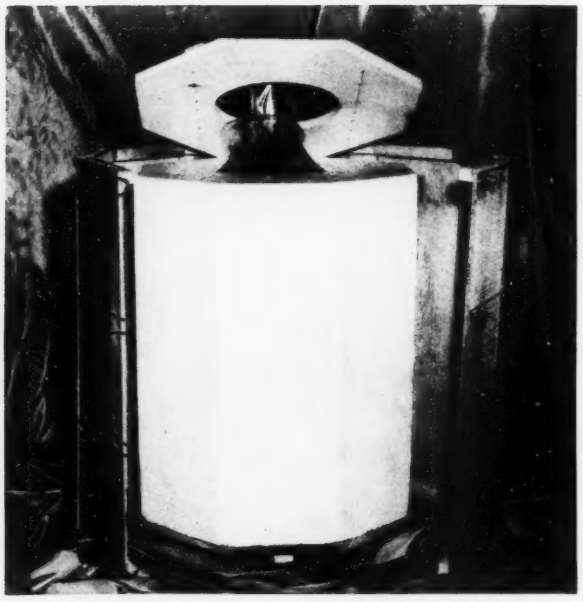
The customer's reaction being recorded here by a member of a Ball marketing research team could very well improve the sales appeal of your package. Through the years, our continuing alertness to the buying trends and the ever-changing attitudes of the consumer has given us a wealth of information to assist you in strengthening your product impact at the consumer's all-important moment of decision.

Your Ball representative will be glad to tell you how Ball can become your working partner in the development of the best package for your product.

Ball Brothers Company Inc., General Offices, Muncie, Indiana

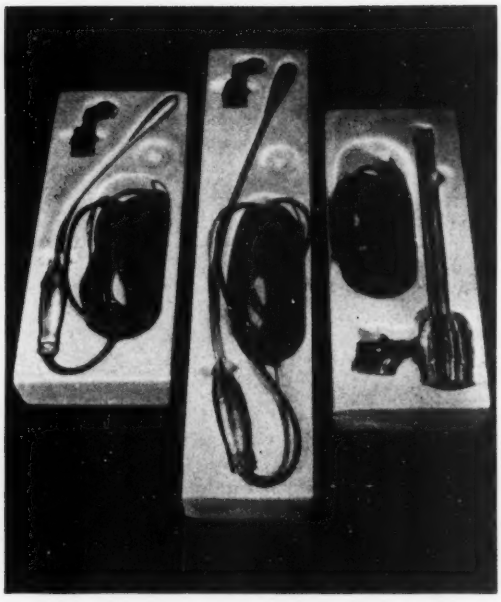
glass containers
metal closures
shipping cartons
packaging counsel
marketing research

Ball YOUR PARTNER IN PACKAGING PROGRESS



DYLITE protects acid bottles.

This DYLITE package gave the Allied Chemical Corporation better, lower-cost protection than was possible with previous packaging materials. The octagonal-molded block cushions the 13-gallon acid carboys, it protects them from vibration and impact damage. The package is completely ship-safe. Around the plastic package is a wooden shell bound by wire. The container is lighter, takes up less space, and saves packaging and shipping costs. At the 1960 Industrial Packaging Competition sponsored by the Society of Packaging and Handling Engineers, this new DYLITE package won the "best of show" award. *Molded by General Chemical Division, Allied Chemical Corporation.*

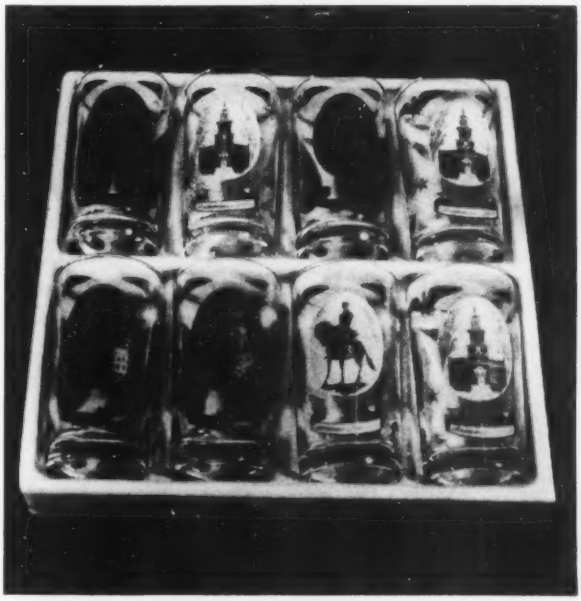


. . . insures a safe and sound mike.

Because of its unusual shape and sensitive parts, this microphone presented a definite packaging problem. Shock-resistant DYLITE was chosen because it molds easily, to *any* size or shape. The DYLITE is custom-molded to tightly fit the contours of the instrument. The microphone is held firmly in place, safe from shipping damage. DYLITE offers complete packaging protection for any sensitive, delicate instrument and its component parts. *Molded by Formex Corporation of Elkhart, Indiana. Microphone manufactured by Electro-Voice, Inc., of Buchanan, Michigan.*

Protect your product with low-cost DYLITE® packaging!

Here's a packaging material . . . DYLITE expandable polystyrene . . . that combines all the ingredients of good protective packaging. DYLITE is lightweight, strong, and shock-resistant. It is low-cost and makes a better-looking package. Here are three good examples of DYLITE packages.



. . . keeps eight tumblers intact.

Here's a package that's attractive as well as protective; it gives the product added sales appeal. And these 10-ounce, Americana-patterned tumblers fit snugly in the molded DYLITE tray. There's no vibration, no glass breakage. Versatile DYLITE is used for packaging many products: typewriters, radios, precision instruments, cameras, musical instruments, tools, and many others. DYLITE can make your next product package better at lower cost. For more information on DYLITE expandable polystyrene, write Koppers Company, Inc., Dept. MPG 120, Pittsburgh 19, Pa.

Tray molded by Expandable Plastics, Akron, Ohio.
Tumblers by Libbey Glass, Toledo, Ohio.

KOPPERS PLASTICS

Koppers also makes these other fine plastics for packaging: DYLENE® polystyrene, DYLAN® polyethylene, SUPER DYLAN® polyethylene.

MAN SIZE OR PINT SIZE?

● No matter how *large* or how *small* your product is—in fact, no matter *what* it is—INLAND is equipped to find the best way to pack and ship it.

We make this statement based on our experience in building containers for literally thousands of customers and products. There's scarcely a packaging problem we haven't already faced—and solved.

Have problems with breakage? Shipping costs cutting your profits? Have a product requiring entirely new packaging concepts? Does your package have sales appeal? We've designed some of the most ingenious solutions you've ever seen in your life.

We have a world of information on packaging. What would you like to know?

MILLS:
Macon, Georgia
Rome, Georgia

BOX PLANTS:
Indianapolis, Indiana
Middletown, Ohio
Winchester, Virginia
Milwaukee, Wisconsin
Evansville, Indiana
Detroit, Michigan
Macon, Georgia
Erie, Pennsylvania
Ashtabula, Ohio
Orlando, Florida
Rome, Georgia
Biglerville, Pennsylvania
Louisville, Kentucky
Dallas, Texas
Chicago, Illinois
Philadelphia, Pennsylvania
Baltimore, Maryland
Omaha, Nebraska
South Haven, Michigan

INLAND CONTAINER CORPORATION
Corrugated Fiber Containers

General Offices: Indianapolis, Indiana

Partners in Progress with American Industry

Labeling extension

The American Medical Assn.'s request to study the Government's proposed changes in drug-labeling requirements before they are put into effect has been granted by Food and Drug Commissioner George P. Larrick, who has extended for 90 days the deadline for filing comments on the proposal.

Mr. Larrick said that because of the A.M.A. request, it probably will not be until early next year that the Government will issue its final order requiring stricter labeling of prescription drugs. The F&DA has proposed that nearly all prescription drug packages and printed matter sent to doctors to promote drugs be required to carry complete information on their use, including any needed precautions against possible side effects from the product. ●

NFPA conference

The principal luncheon address at the recent one-day Presidents' Conference of the National Flexible Packaging Assn., at the Waldorf-Astoria, New York, was given by R. Carl Chandler, chairman of the board of Standard Packaging Corp. Although flexible packaging has for a number of years shown a low net-profit ratio, Mr. Chandler said, "profits *are* possible in our dynamic growth industry" provided there is good management.

E. S. Elgin, president of NFPA and vice president of the Chase Bag Co., presided over the meeting. J. Bicknell Lockhart, Jr., chairman of the Accounting & Finance Committee and vice president of Riegel Paper Co., presented an industry financial-ratio report and there were reports also from Raymond F. Richard of McKinsey & Co., New York, and John M. Cowan, managing director of NFPA. Kenneth L. Warren, treasurer of Package Products Co., presided over a panel session, "Comparing Your Company's Performance with the Industry." ●

CORRECTION: The cost of polypropylene film used by the Ward Baking Co. was incorrectly stated in terms of square feet instead of square inches in "The First Polypropylene Wrap" (MP, Oct., 1960, p. 109). The correct figure is 2.25 cents per 1,000 sq. in. for a standard 16-by-18 in. sheet.

Marking Ideas for People who Package . . . No. 4

from GOTTSCHO

MULTILINGUAL MARKER

Suppose, like Sico Paint Ltd. of Quebec, Canada, you wanted to mark your shipping cases with a legend in French. A problem? Not when you use a Gottscho "*Rolacoder*" con-

veyor marking attachment. This versatile unit can be relied on to do an efficient marking job in *any* language . . . including Greek, Hebrew, Arabic or Sanskrit characters — and even, as shown in the photo, upside down. Which may be one reason why this streamlined little friction-activated marker is an international favorite. (D-1)

STARTING A CODING SYSTEM

Many code-dating systems just grow like Topsy. But the best ones are carefully planned with regard not only to their present but their future effectiveness. If you are planning to install a coding system — or would just like to check up on your current procedures — you will be interested in a comprehensive new bulletin we have just prepared. A copy of "Mechanics of Initiating and Maintaining a Successful Code-Dating System" is available to you free on request. (D-2)

MRS. PAUL'S NEW PACK

Mrs. Paul* is a lady of action. When she decided to pack her delicious fish sticks in units of 12 (9½ oz.) instead of 10 (8 oz.), she meant to change *right now*. Instead of waiting for new printed wrapping material, Mrs. Paul just used up the old stock and overprinted announcement copy about the new pack right on the front. In this way she was able to get the new promotion off the launching pad weeks ahead of time, score a real edge over competition. And, what's more, she saved money by using the "obsolete" wraps instead of throwing them out. A little "*Rolaprinter*"® unit attached to Mrs. Paul's wrapping machine made the whole thing possible. (D-3)

*Mrs. Paul's Kitchens, Div. of E. J. McAleer & Co., Inc.

INK NO MORE, MY LADDIE

Never again need you re-ink a friction-type marker if you use the new "Magic Ink Roller." Made of PORELON* microporous plastic, this amazing roller has its own built-in ink supply, good for approximately 150,000 impressions. It's surprisingly inexpensive — you just discard it when dry and replace with a fresh roller. Recommended for use on all porous or absorbent surfaces, the "Magic Ink Roller" is available from Gottscho on all new "*Rolacoder*" markers . . . also as replacements for existing "*Rolacoder*" or similar marking/coding attachments. (D-4)

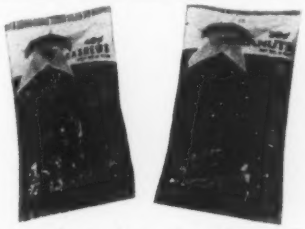
*A registered trademark of S. C. Johnson & Son, Inc.

IMPRINTS TOP AND BOTTOM

A price on the top and a code on the bottom can now be imprinted simultaneously on jars, cans or similar containers as they are conveyed along the packaging line. This double-action single-pass marking is accomplished by means of a new automatic imprinting attachment called the "TBT *Markocoder*"®. (D-5)

LESSON FROM NUTS

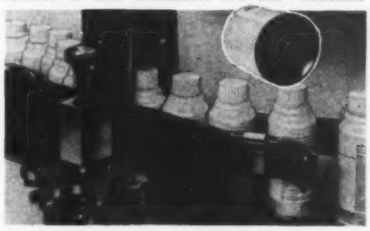
If you pack a variety of different products in the same basic type of package, you may profit handsomely by the experience of Crescent Nut Co. Crescent markets many different kinds of tasty nutmeats . . . but uses the same multicolor printed cellophane roll stock for all. A "*Wrapaprinta*"® roll-leaf imprinter on its form-and-fill pouch machine enables Crescent to switch from cashews to peanuts,



for example, in just a few minutes. Or, if circumstances require, the price or weight or both can be changed with equal speed. In addition to imprinting these 3 variable legends on the bag front, Crescent also applies a code-date on the *back* of the package . . . at the same time, with the same "*Wrapaprinta*." The advantages of this method are lower packaging materials cost, no loss of costly stock through obsolescence, no packaging inventory problem, greater flexibility in production scheduling and virtually no machine down-time. (D-6)

INEXPENSIVE CAN CODER

A new low-priced self-powered conveyor attachment for marking codes, prices, etc., on the bottom of aerosol and other round containers is now available. It's the "*Sideline*



Markocoder," an unusually simple, foolproof and compact device designed for easy do-it-yourself installation on any can line. The marker is driven by the product stream and is fully automatic. Its sanitary design makes it suitable for either wet or dry areas. (D-7)

Want more info? Check off—clip—attach to your letterhead—and mail to

GOTTSCHO, Dept. A, Hillside 5, N. J.

☐ D-1 ☐ D-2 ☐ D-3 ☐ D-4
☐ D-5 ☐ D-6 ☐ D-7

VERSATILE 4 VALVE FILLER
ELGIN "QUAD"
For Liquid and Viscous Products

Ideal for glass or tin containers, the Elgin "Quad" is the highspeed, accurate producer—easily and quickly adjusted for fill, and speed! The piston stroke which governs fill in all 4 valves is easily controlled by a single micrometer screw adjusting handle. The upper table assembly is quickly adapted to all container heights by a single hand wheel.

You reduce air pockets and foam to an absolute minimum with the Elgin "Quad" bottom fill. The "Quad" is a proven success with light or heavy packs—is easy to clean—and earns its versatile way with trouble-free deliveries.

Write for complete literature

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European packaging

Trends in European packaging of interest to American packagers were evident in two simultaneous activities in France in October.

The French Packaging Exhibition in Paris (Oct. 14-23) displayed such new items as a bag fabricated from polyamide film (Nylon 11) for the vacuum packing of a variety of fresh, cooked or dried fish, cheese and meats. Tests on preserved foods were reported to show six months' shelf life without refrigeration. Also presented at the show were awards of European Packaging Federation Eurostars to 17 packages. The awards were announced by John Castle of Bowater Packaging, Ltd., England, newly elected president.

Eurostar winner is this Swiss-made polyethylene-walled squeeze container for a powdered insecticide, with a horizontal spray head that permits sideways use.

The single Swiss winner, a polyethylene-walled squeeze container for Gesarex, a powdered insecticide (see photo), was highly rated by the judges for its convenience, sales appeal and protective qualities. A metal top is fitted with a horizontal powder-spray head designed so the container can be held and operated sideways to permit treatment of plant leaves from the under side. The container is filled through a hole in the metal base, sealed with a polyethylene plug fitment.

John Castle

Also of interest to American packagers is the fact that heavy-duty shipping bags of plastic film turned up in polyvinyl chloride rather than the polyethylene film offered in the States. Designed for standard valve filling of 50 kg. of fertilizer, resins or chemicals, these Italian bags won two Eurostars. ●

Frozen-food carton

[*Continued from page 98*]

machinery used to erect locking cartons. Several modifications have been made, however, to facilitate heating and sealing of the glue pattern.

The carton blanks are fed from an inclined magazine and picked up by a four-cup vacuum arm, which is equipped with two radiant heating elements that pre-heat and soften the glue on the blank. The vacuum arm swings each blank down with an eccentric motion and positions it over a heated female die. A male die drives the blank through the female former, pausing for an instant at the end of the stroke to provide extra time for heat penetration. At this point, the sides of the female die (composed of two heating bars) are compressed by spring-loaded arms to complete the sealing job. A reciprocating vacuum arm underneath the former then pulls the erected carton down onto an exit conveyor. On the return cycle, the male die rises between the bars of the vacuum arm where two brushes mounted on the bars remove any wax deposits.

At present, this machine is not connected to the main packaging line, but necessary automatic conveying and positioning equipment is now being built.

On the main line, the cartons are hand loaded with one of the dough-wrapped products (which are extruded and cut to length on a single machine). The filled cartons are check weighed and then enter the right-hand side of the belt-fed sealing machine. The open carton lid, which is in the leading position, is closed and held under light pressure by an overhead sponge-rubber belt, while the outer side flaps are plowed down and then heated by two pairs of heating bars. The heated and compressed flaps are finally chilled by two plates containing circulating cold water. At the end of the machine, the cartons are discharged onto a rotary table that swings the carton around for the return trip through another heating and cooling section on the left side of the machine that seals the front flap on the lid. The completed package is then ready for freezing and casing.

The entire top of the machine, containing the rubber hold-down

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HOW PMC SOLVED IT!

To assemble this stick deodorant package involves the accurate assembly of 4 plastic components. The washer must be placed in the cup, the cup then placed in the container and the long stemmed screw inserted through the container and then threaded into the cup and tightened. Because existing machines could not handle the job, it was done manually. Costs were high.

A standard PMC Rotary Capping Machine equipped to handle this complex assembly, now makes it possible to assemble all components in one continuous operation at speeds as high as 150 containers per minute. Containers are fed in an inverted position; the screws, washers and threaded cups are received from a random bulk supply. In turn, the washer is placed into the recess in the threaded cup and the screw is accurately inserted through the hole in the container and threaded into the cup assembly. With precisely controlled torque, the screw is tightened until the washer is locked at the bottom of the container holding the screw and cup firmly in place. The completed package is then passed through an inverting screw which turns the container to an upright position ready for filling. The one PMC Machine does the job of several assembly workers at substantial savings.

If you are faced with an assembly, capping or inserting problem, PMC may be able to help you. Just call or write for further information.

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belts, is hinged at one end and secured in place by a latch assembly that can be quickly released, allowing the belts to be raised above the heaters during brief shutdown periods to prevent deterioration of the belts. A special transformer provided by the supplier converts 220-volt current to the 190-volt British system used for the heaters and drive.

The success of this installation marks the fulfillment of a long developmental program by both the packager and suppliers that has resolved the knotty problems of correct coating and adhesive formulation and the proper degree of time, temperature and pressure to assure a firm seal.

If the feasibility of this package becomes evident to U.S. packagers, it is expected that future developments can concentrate on improving the barrier properties and packaging speed of this container to meet the needs of volume applications in the frozen-foods field. ●

Film specifications

New standards for flexographic- and rotogravure-printed cellophane in sheet, roll and bag forms have been announced by the Specifications Task Committee of the National Flexible Packaging Assn. The purpose of these specifications, reports NFPA, is to achieve more intelligent use of converted flexible packaging materials as a result of recognized and accepted practical finished product standards.

The new specifications, aimed at achieving more intelligent use of converted flexible packaging materials, cover dimensional tolerances, quality of printing, physical properties and warranty conditions for the various forms of cellophane which are used in packaging. Among the physical properties specified are ink adhesion, odor control, heat sealability, clarity, density, bond and various measurements of strength.

Printing qualities measured include general appearance, color registration, design position and cutoff control.

These initial standards will be followed in the near future by others for thermoplastic films, laminations and extrusion-coated materials, according to spokesmen of the NFPA. ●

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ANNUAL
EDITORIAL INDEX

(Volume 33—September, 1959 through August, 1960)

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1960 liquor binge

Judging from the bales of photos and press releases describing gift packaging distributed by the liquor industry, it looks as though all attempts to let go of fancy glassware and lavish pre-wraps have been completely abandoned.

The rush is on among the nation's

Count Bernadotte of Sweden supervised the design of this decanter, the first for Old Taylor 86-proof bourbon.

distillers to win their share of the estimated more than $1.65 billion sales of wines and spirits during the 1960 holiday selling period in an orgy of ornamentation.

Decanters are made of everything from Royal Doulton and Royal Copenhagen to "Royal Toledo" in hundreds of custom-mold designs. Closures range from designs that look like the control wheels on space ships to a 6-in.-high, spread eagle of gold-metalized, medium-impact polystyrene on 10-year Old Hickory.

Wrappings are embellished with the most elaborate printing and embossing imaginable, plus applied three-dimensional rosettes, tinsel ornaments, plastic-foam Christmas trees and dozens of other kinds of decorative glitter.

The list of designers involved reads like the membership of the Package Designers Council. Glenmore Distillers this year went to a woman designer who does the gift packaging for Nieman Marcus in Dallas for a new approach. And National Distillers has even brought royalty into the act, reporting that its first decanter for Old Taylor 86-proof was designed under the supervision of Count Bernadotte of Sweden. ●

High-density containers

[*Continued from page 126*]

the more expensive methods of applying a label and is therefore usually used on shapes which cannot be silk screened because of compound curves in the label-panel area. Also, hot-stamping permits use of certain special colors, such as bright gold.

Paper labeling is the lowest-cost method. It does require, however, label-panel areas on the container which are flat or are made up of radii which are constant or concentric. The amount of allowable deviation (convexity or concavity) from this requirement is extremely small to avoid label wrinkling. This requirement becomes more difficult to deal with on containers having large, geometrically unsupported label-panel areas such as an oblong shape where weight alone must make up for the lack of panel rigidity.

Details of design requirements, although somewhat similar to those for silk screening, are still being worked out for bottles which are to be decorated by heat-transfer labeling.

6. With the container designed using the above considerations, the last consideration of the engineer involves the tooling with which he will blow mold this item. His primary concern is to determine the size and shape of the mold cavity to produce the desired container.

If the container is to be paper labeled, silk screened, heat-transfer or offset printed, then it must be treated on the label-panel area so that the adhesive or ink will adhere to the polyethylene. The treating process causes the bottle to shrink and must be allowed for. For silk-screened, heat-transfer and offset-printed bottles, an additional shrinkage caused during oven processing must be included. A third shrinkage factor to be accounted for results from the cooling of the polyethylene. This varies with mold temperature, material temperature as it leaves the extruder and length of time in the mold. It also varies with the thickness of section, thicker sections shrinking a greater amount.

The way in which material has been distributed throughout the container for optimum characteristics necessitates sections of varying thickness. The uneven shrinkage that results therefrom causes what best can be described as distortion, which

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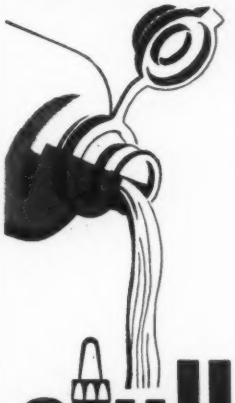

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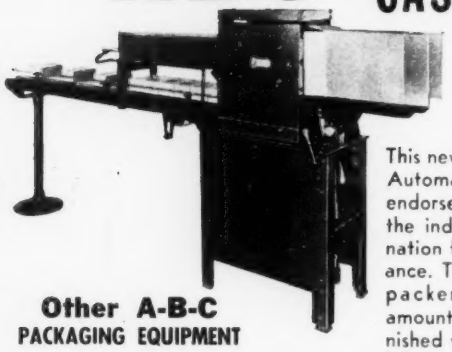
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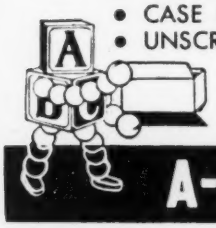
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must be compensated for in mold-cavity shape so that the final container meets dimension requirements.

Because high-density polyethylene does not have the same shrinkage characteristics as low-density polyethylene, it is not possible to interchange material in the same mold without a resultant change in all dimensions and capacity. However, through the use of interchangeable neck inserts in the blow molds, the differences in material shrinkage can be compensated for on the finish sizes. The difference in capacity, however, will remain and there is a good possibility that the difference in shrinkage will cause distortion which, in turn, will cause a container to rock or be unstable while it is resting on its base.

References

1. Boeke, P. J., Martinovich, R. J., and Pritchard, J. E., (Phillips Chemical Co.), "Ethylene Copolymers," SPE 16th Annual Meeting, 1960.

2. Brown, Grant S., (Plax Corp.), "Mechanical Processes of Blow Molding," SPE 15th Annual Meeting, 1959.

3. Bracken, W. O., (Hercules Powder Co.), "Blow Molding," SPE 16th Annual Meeting, 1960.

4. Doyle, Robert, Perry, D. E., and Branscum, T. E., (Phillips Chemical Co.), "Extrusion Blow Molding Techniques for High Density Polyolefins," SPE 16th Annual Meeting, 1960.

5. Scott, J. H., Smith, J. V., and Alexander, D., (Phillips Chemical Co.), "Design Considerations for Molded Polyolefin Items," SPE 16th Annual Meeting, 1960.

6. Howard, J. B., and Martin, William M., (Bell Telephone Laboratories, Inc.), SPE 16th Annual Meeting, 1960.

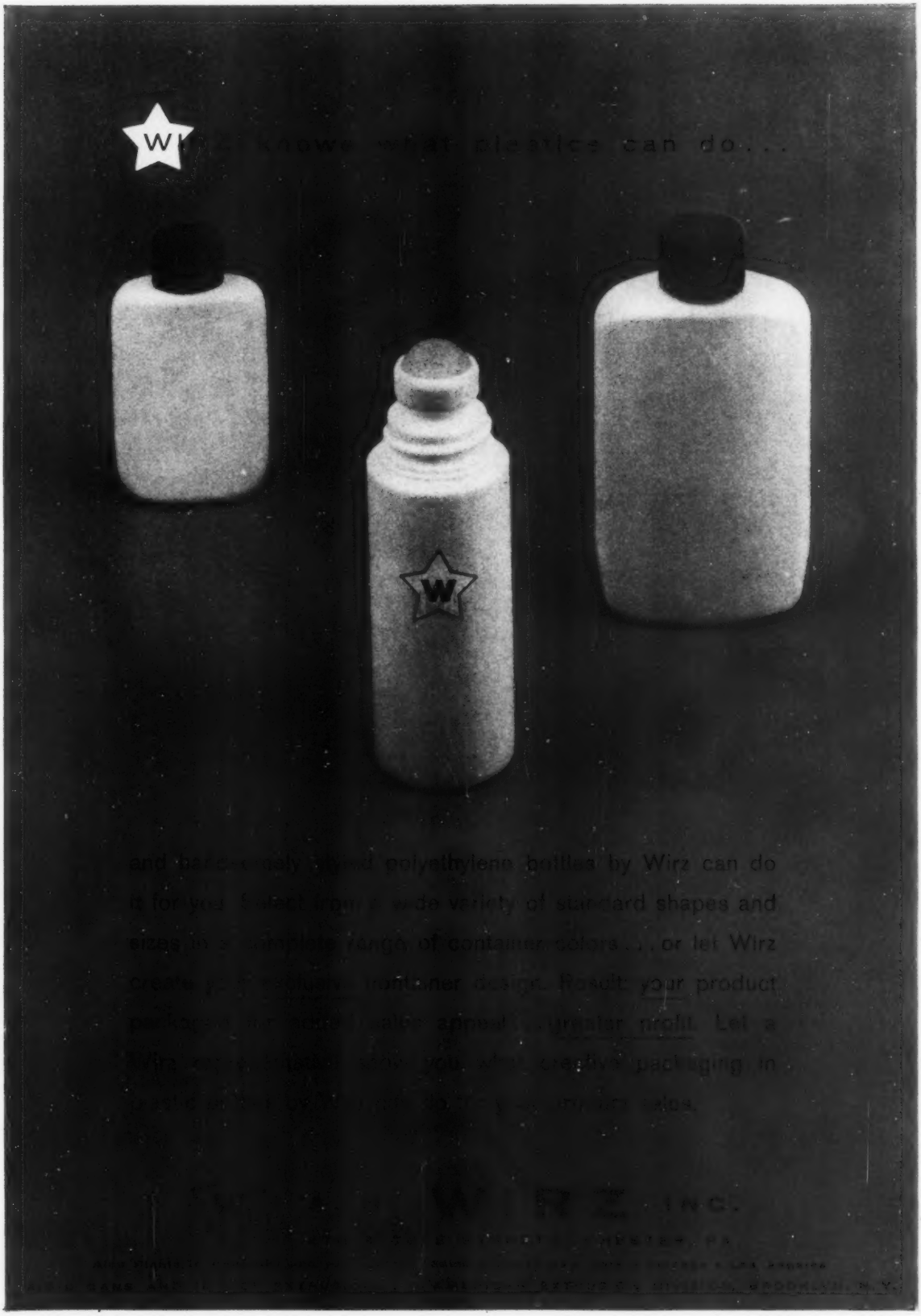
7. Larson, F. R., and Miller, F., "A Time-Temperature Relationship for Rupture & Creep Stresses," Trans. A.S.M.E., 765-777 (1952).

8. Boeke, P. J., Martinovitch, R. J., and McCord, R. A., (Phillips Chemical Co.), "Melt Index Equivalent—A New Flow Parameter," SPE 16th Annual Meeting (1960).

9. Nielsen, A. R., and Temple, E. J., "Permeation Effects of Bottle Size & Weight," *Package Engineering*, Aug., 1958.

10. Pinsky, J., Nielsen, A. R., and Parliman, J. H., "Shelf Life in Polyethylene," MODERN PACKAGING, Oct., 1954, p. 145.

(The second and concluding part of this article, covering package evaluation, packaging-line equipment and test methods, will appear in the next issue.) ●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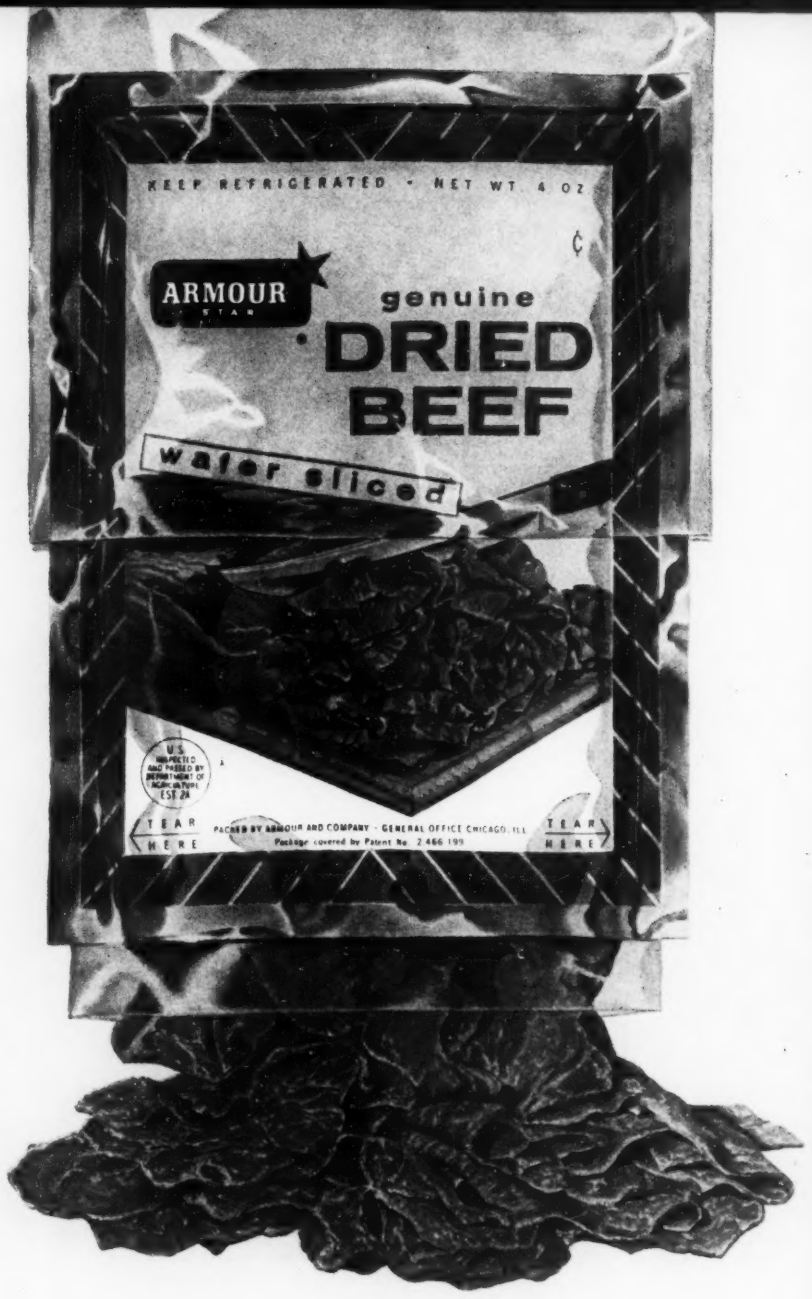

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Sounding board

[*Continued from page 67*]

we are at liberty to use misprints and even used boxes. We have group meetings with employees to explain things carefully. Later, we caution those who still don't understand. We generally don't have to tell them but once, since we have a bunch of good fellows to work with. They are very cooperative—they come to me with their ideas and I go to them for theirs. They listen to me and I listen to them.

We do not have exactly an incentive system or plan, but our employees are remembered when it's time for raises. Raises are closely associated with the way they work and the way they use materials.

In our meetings with employees we explain in detail the differences in the costs of materials and talk to them about wasting materials, urging them to keep the costs down. Also, we urge them to use the smaller and less costly materials and boxes when these will do the job. ●

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State of New York
ss.
County of New York

Before me, Notary Public in and for the State and County aforesaid, personally appeared Alan S. Cole, who having been duly sworn according to law deposes and says that he is the Publisher of MODERN PACKAGING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (Section 537, Postal Laws and Regulations), to wit:

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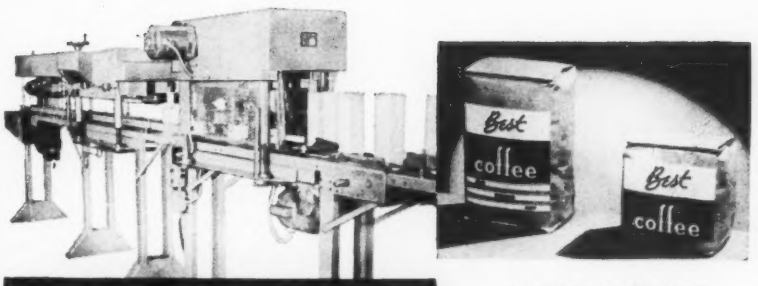

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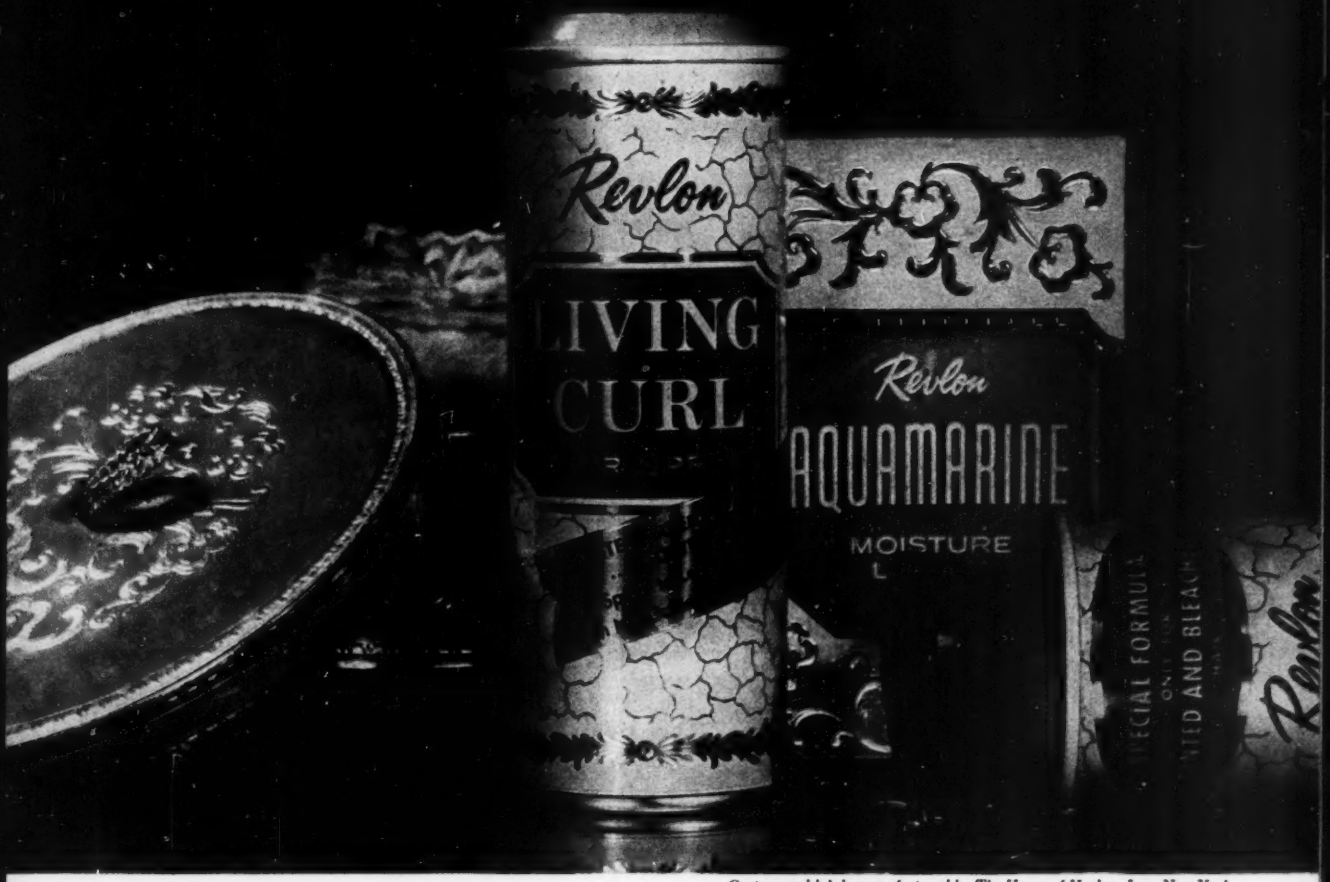

Cartons and labels manufactured by The House of Harley, Inc., New York

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As part of their marketing strategy, **Revlon** has given the packaging of their beauty products the same glamour quality as the products themselves. To do this, they have turned to sparkling aluminum foil. The exciting results are illustrated . . . cartons and canister overwraps of gold and silver embossed foil, designed for that extra "select-me" appeal so necessary on crowded counters and displays.

House of Harley, Inc., New York, in designing and producing these Revlon packages, has selected quality **Anaconda Aluminum** foil. The embossed Aquamarine folding cartons use laminated foil board stock . . . the canisters and bath powder box have embossed, laminated foil overwraps.

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Manufacturers' Literature

Described below . . . the latest literature, catalogs and brochures from the packaging industry. Dollar saving and dollar making ideas and data . . . available without charge.

EQUIPMENT • SUPPLIES • SERVICES

CANNING CARBONATED BEVERAGES. 4-page catalog describes and gives prices, illustrations for syruping system, pre-mix system, empty can packages, filling and closing equipment, processing equipment, filled can packaging. Summary of can line costs included. Continental Can Company. (L-050)

STAPLING WIRE. Two folders feature information on stitching or box stay wire for stapling boxes, cartons, fibreboard containers. Sizes and finishes listed. Other data. Seneca Wire & Mfg. Co. (L-051)

GLASSINE & GREASEPROOF PAPERS. Pocket-sized sample booklet of plain, plasticized, waxed, coated, treated, wax laminated or glue mounted papers. Uses include bags for food, mixes, powders, liners in cartons, wrappers for meats, rust and corrosion prevention. The Hamersley Mfg. Co. (L-052)

NAILERS, STITCHERS, TACKERS, STAPLERS. 8-page illustrated booklet describes complete line of over 300 models. Features manual-, foot-, pneumatic- and electrically-operated units. Detailed information and data, applications. Heller Roberts Mfg. Corp., Industrial Fastener Div. (L-053)

CONTAINERS AND TUBING. 4-page illustrated folder gives information and detailed data on full line of basic containers and closures with typical applications. Also covers labels and wrappers, liners and container tubing. The Cleveland Container Co. (L-054)

WEIGHT CALCULATOR AND CONTROL. 4-page folder describes method of simple or statistical weight control using any checkweigh scale. Complete information and data; typical applications. Scale Specialties, Inc. (L-055)

CLOSING CORRUGATED BOXES. 10-page illustrated booklet compares the relative efficiencies and speeds of five different methods of closing corrugated boxes. Material cost analysis included. Atlantic Gummed Paper Corp. (L-056)

AUTOMATIC FILLING MACHINES. 6-page illustrated brochure describes piston-type fillers for liquid, semi-liquid and semi-solid food, chemical and drug products. Specifications and production capacities, construction and operational features. The Filler Machine Co., Inc. (L-057)

ACCESSORY EQUIPMENT FOR SLITTING AND WINDING. 10 illustrated specification sheets give detailed information and data on miscellaneous accessory equipment for score cut slitting, rewinding and unwinding. John Dusenbery Co., Inc. (L-058)

GUMMED LABEL PAPER. Two sample books, with removable swatch samples, describe advantages and applications of complete line of gummed label papers. Minnesota Mining & Mfg. Co., Mid-States Gummed Paper Div. (L-059)

TRANSPARENT PLASTIC BOXES. 4-page illustrated brochure gives general information on complete line of transparent plastic boxes. Advantages, sizes listed. Vichek Tool Co., Plastics Div. (L-060)

PAPER CONTAINER ADHESIVES. 12-page illustrated book gives useful information on adhesives for folding cartons, glued lap containers, set-up boxes, fiber cans, tubes and drums. Reccommendations, technical test data, general information given. H. B. Fuller Co. (L-061)

UNITIZED CHECK-WEIGHING SYSTEMS. 4-page illustrated folder describes check-weighing systems for all types of dry or liquid, single or multi-unit containers. Weighing and Control Components, Inc. (L-062)

CUSTOM-FORMED PLASTIC PACKAGES. 4-page illustrated brochure describes advantages and applications of custom-formed plastic containers. The Pantasote Co., Panta-Pak Div. (L-063)

GRAVITY AND BELT CONVEYORS. Two illustrated 4-page brochures describe gravity roller and gravity wheel conveyors as well as inclined and horizontal belt conveyors. Photos, diagrams. Conveyor Specialty Co., Inc., (L-064)

BULK MATERIAL HANDLING. 32-page illustrated booklet describes complete system for handling bulk materials. Detailed explanations of filling, discharging, storing, shipping. Photos, diagrams, special applications. Tote System, Inc. (L-065)

PACKAGE TESTING EQUIPMENT. 6-page illustrated catalogue describes transportation-simulating equipment — including vibration machines, drop testers and incline impact testers. Dimensions and specifications. Pre-shipment, in-plant package testing discussed in detail. L. A. B. Corp. (L-066)

PRECISION SAMPLE CUTTER. Illustrated bulletin describes accessories for Elmendorf tearing tester. Full information on precision sample cutter and calibration check weights. Thwing-Albert Instrument Co. (L-067)

PLASTIC CLOSURES. Illustrated folder describes complete line of plastic closures, including stock jar covers, stock bottle caps, pour clean caps, ball caps and custom molded closures. Mack Molding Co., Inc. (L-068)

ROUND BOTTLE LABELER. 6-page illustrated brochure covers automatic labeler for round bottles. Describes features and applications. Schematic diagram included. New Jersey Machine Corp. (L-069)

CORRUGATED CARTONS. 16-page illustrated book describes new hinge-fold feature for stronger, truer cartons. Full information on features and applications. Patent drawings and report on laboratory tests included. The International Paper Box Machine Co. (L-070)

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EQUIPMENT • SUPPLIES • SERVICES

PLASTIC CONTAINERS & ACCESSORIES. 40-page illustrated book describes plastic containers in detail. Includes tapered ovals, ovals, oblongs, special shapes, cylinders, etc. Also describes plugs, closures, and industrial containers. Plax Corp. (L-071)

STITCHING WIRE. Illustrated sheet gives information on stitching wire for box makers, shipping containers (corrugated and fibre). Data on wire sizes and specifications on all models of speed-stitchers included. Mid-States Steel & Wire Co. (L-072)

BAG PACKAGERS. 4-page illustrated brochure describes bag packager that can cut labor packaging costs by 80%. Features, applications, other data. Errich International Corp., Packaging Div. (L-073)

BAG-MAKER & SHEETER. 4-page illustrated folder describes polyethylene bag-maker and sheeter that automatically makes bags or sheets up to 24 in. wide and 100 in. long. Advantages, applications, information on production rate included. Lectromatic Devices, Inc. (L-074)

FILLING EQUIPMENT. 12-page illustrated catalog describes full line of volumetric-type filling machines. Photographs, descriptions, technical data—with emphasis on table models. Popper & Sons, Inc. (L-075)

SEMI-AUTOMATIC LABELER. 4-page illustrated folder features labeler that handles all sizes and shapes of containers from ampules to gallons. Photographs, schematic diagrams, specifications. Atlas Labeling Machine Corp. (L-076)

FOIL PACKAGING MACHINERY. Illustrated data sheets describe medium and high speed closure equipment for aluminum foil containers. Operating features, specifications, dimensions. Ekco-Alcoa Containers, Inc. (L-077)

RUBBER SEPARATING PAPER. Data folder describes new interleaving and separating paper that will not stick to tacky rubber, pitch, asphalt, plastic compounds, etc. Applications, specifications, physical properties. Riegel Paper Corp. (L-078)

COLLAPSIBLE PLASTIC CONTAINERS. 4-page illustrated folder describes flexible, reusable drum for all types of bulk liquid and flowable dry commodities. Construction features, applications, specifications included. Highway Trailer Industries, Inc. (L-079)

LABEL PRINTING MACHINES. 4-page illustrated brochure describes machine that automatically prints, addresses, or marks product identification labels—from a stencil. Features and specifications included. Weber Addressing Machine Co., Inc., Marking Systems Div. (L-080)

STRAPPING MACHINES. 20-page illustrated book describes round and flat steel strapping machines, stretcher-sealers and accessories. Applications, advantages, other data included. United States Steel Corp., Steel Supply Div. (L-081)

HEAT SEAL CHARACTERISTICS. 16-page illustrated book describes the machine conditions which give satisfactory heat seals of polyethylene film and extrusion-coated substrates. Schematic diagrams, graphs, other data. National Distillers & Chemical Corp., Industrial Chemicals Div. (L-082)

BLOWN PLASTIC CONTAINERS. 8-page illustrated booklet describes line of plastic containers—including flexible-type in polyethylene, rigid-type in linear polyethylene, transparent and opaque types in acetate, cellulose propionate, etc. Royal Manufacturing Co. (L-083)

TEMPERATURE CONTROL UNITS. Five illustrated bulletins describe temperature control units, including models capable of operating at temperatures up to 550 degrees Fahrenheit. Sterling, Inc. (L-084)

DRUM LIFTS. 4-page illustrated folder describes one-man drum lifts and line of accessories. Photographs, schematic diagrams, specifications, other data. Sterling Fleischman Co. (L-085)

POLYETHYLENE. 24-page catalog gives general characteristics, applications, typical properties, of three polyethylenes manufactured by this company. These plastics are low-molecular-weight, non-emulsifiable resins suitable for use in blending with paraffin, in preparation of PE coated papers, and in the manufacture of polishes, textile finishes and other coatings. Eastman Chemical Products, Inc. (L-086)

PORTABLE LIQUID FILLERS. 24-page illustrated booklet describes the only portable, electronically-controlled liquid filler that dispenses all liquids. Features, applications, specifications included. National Instrument Co., Inc. (L-087)

MATERIALS HANDLING EQUIPMENT. 12-page illustrated catalog describes line of materials handling equipment, including racks, pallets, skid platforms, box and barrel grabs, trucks, etc. Features, applications, other data. Palmer-Shile Co. (L-088)

FIBRE PARTITIONS. 4-page illustrated folder gives advantages, applications, other data on line of fibre partitions. Fibre Partitions, Inc. (L-089)

INDUSTRIAL ROLLS. 16-page illustrated booklet covers complete line of industrial rolls for packaging, paper, plastics, printing, textile and general industries. Advantages, applications, other data included. Paper Machinery & Research, Inc. (L-090)

GRAVITY FILLERS. Illustrated sheet describes complete line of gravity fillers with filling speeds from 35 cpm to 400 cpm. Advantages, applications, schematic diagrams and specifications included. Pfaudler Permutit, Inc., Pfaudler Div. (L-091)

CONVERTING PAPERS. Illustrated folder—complete with samples—describes diversified line of converting papers. Applications, advantages, other data included. Thilmany Pulp & Paper Co. (L-092)

CAPSULE PRINTER. Illustrated catalog sheet describes printer that imprints up to 1,400 capsules per minute. Photographs, diagrams, specifications, other data included. Markem Machine Co. (L-093)

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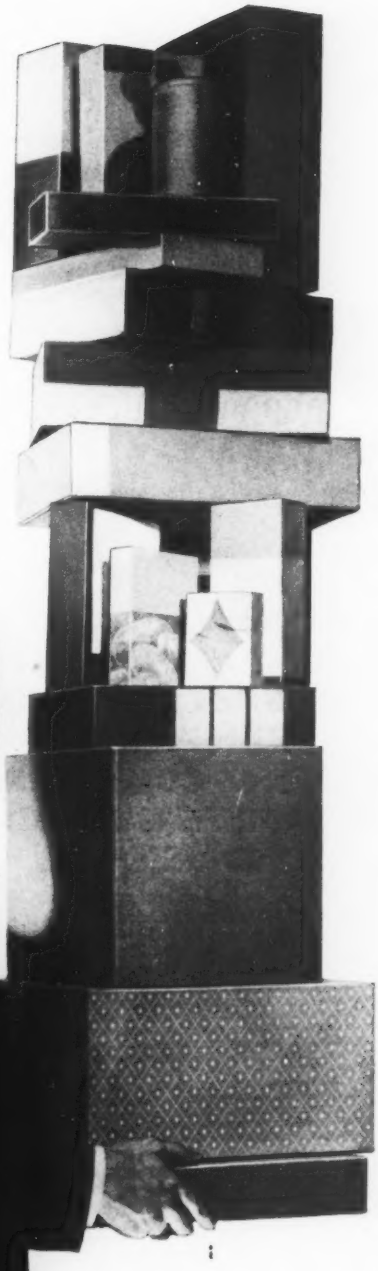

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From resin to film bags on one machine

Whirlpool Corp. and other important midwest packagers are now enjoying same-day delivery of polyethylene bags not yet manufactured at the time their orders are placed. This jet-age package production has been made possible by installation of a significant new bag-line plant at Plastixfilm Converters, Minneapolis. The unit is one of the first to produce finished bags from resin in one integrated, in-line operation. While early installations of the big machine (45 ft. long and 20 ft. high) are expected to be at such converting plants as Plastixfilm's, there remains the possibility that big packagers using quantities of polyethylene bags will find it worth while to install the bag-line plant in their own shops. The machine is reported to have several advantages:

1. Plastixfilm can produce 3,000 bags per hour per bag former (it has two) of the 12½-by-12½-in. size used for phonograph records. Twice this number of smaller bags can be produced in an hour.

2. Bag sizes which the machine can turn out range from 2 by 2 in. to 21 by 24 inches. Length may be changed in less than 5 min., while only 20 min. are required for a complete change of width and film gauge.

3. Only two operators are needed for Plastixfilm's double-line unit. One operator can do the job with a single-unit installation.

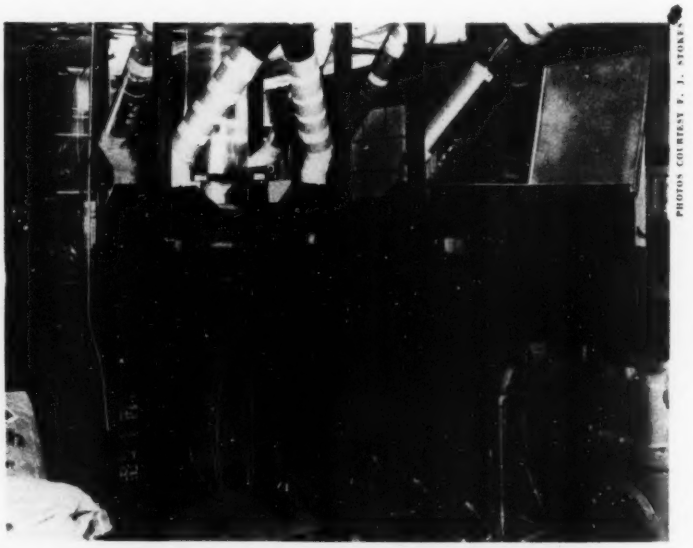
4. Instead of having to stock many rolls of polyethylene film in various gauges, a supply of resin is all that is necessary, allowing great savings in storage space. The machine can produce film in gauges from 7/10 mil to 7 mils.

5. Film quality can be strictly maintained, while waste is virtually eliminated.

Operation of the bag-line machine divides into five basic steps, all mounted on one frame: extrusion of the film in tubular form, blowing and cooling, gusseting, venting and, finally, cutting and sealing. Plastixfilm will soon install a sixth step, a flexographic printing press especially designed for the bag-line machine, which will run at the same speed as the other equipment.

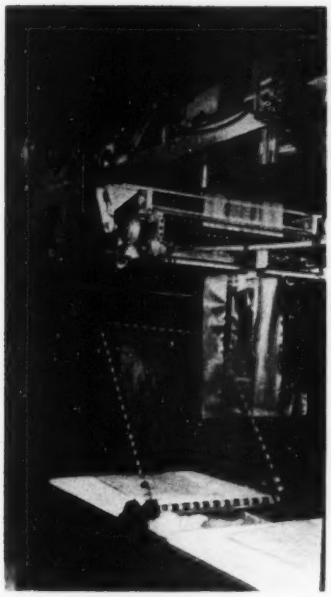
Plastixfilm's operation of the machine is somewhat unusual in that two film-blowing and bag-forming lines are supplied from one 3½-in. extruder. Ordinarily the machine is supplied with only one blowing and bag-forming unit. Plastixfilm's dual line runs by means of a T-shaped crosshead. Here, the molten polyethylene is dispensed to right and left into twin manifolds and then into two dies, which extrude the tubular film.

The tubes are expanded—or blown



PHOTOS COURTESY P. J. STOKES

One extruder (foreground) feeds two film-blowing and bag-forming lines by means of T-shaped crosshead at end of extruder screw (between frames). Twin lines produce up to 12,000 bags per hour.



Air-blower manifold shoots blasts of air between segmented rollers as film moves into cutter and sealer. Air jets keep film straight. Reciprocating flystick of steel mesh stacks finished bags in alternate piles.

—and cooled by refrigerated air in a 20-ft. tower and the film passes, at present, to a hole-punching station. However, as soon as the company's two-color flexographic press is installed, the film will first feed through this. There, the film will be bombarded, electronically, to prepare the surface for printing and then will pass through printing and ink-drying sections of the press. Now, the film moves from hole punching to bag forming over spring-loaded compensating rollers, which automatically adjust for the difference between the machine's continuous output and the intermittent operation of the bag-former unit. Passing through a cutting and sealing bar, the tubular film is converted into bags, then is automatically stacked by a reciprocating flystick of steel mesh.

Plastixfilm is running polyethylene only but the bag line is said to be suitable for polypropylene too. The line will also produce sheet of various widths.

While the bag-plant machine in not inexpensive (Plastixfilm's dual machine cost approximately $50,000), its advantage to Plastixfilm in high bag quality and faster delivery is already paying off.

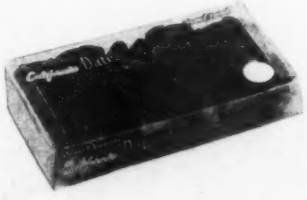
SUPPLIES AND SERVICES: Bag-line plant by F. J. Stokes Corp., 5500 Tabor Rd., Philadelphia 20. Polyethylene resins used by Plastixfilm are Spencer's #5365 for general-purpose bag production and #2115 for bags needing extra strength.

Cold-formed plastic tray for dates

The California Date Growers Assn., Indio, Calif., is packing its product in a transparent and rigid polystyrene tray that reportedly requires neither heat nor adhesives. This is said to be the first packaging use of this new cold-formed container, made from a material which has been approved for food packaging by the Food & Drug Administration.

The rectangular tray, measuring 8¼ by 4½ by 1½ in., is formed from 10-pt. die-cut blanks and folded and locked on automatic equipment at a speed of almost 100 per min., according to the packager. The unscored blank incorporates a locking feature which is reported to form an excellent closure. Brand identification is reverse-printed between laminated cellophane overwrap sheets.

The tray contains 1½ lbs. of unpitted dates, or 22 oz. of pitted dates.



Product visibility is advantage of cold-formed rigid polystyrene tray. Minimal copy on the clear box emphasizes merchandising appeal.

SUPPLIES AND SERVICES: "Plasti-Lok" blanks die cut by the Boxboard and Container div., the Weyerhaeuser Co., Tacoma, from polystyrene sheet by Plax Corp., Hartford, Conn., using Monsanto resins and formed on equipment by the R. A. Jones Co., Covington, Ky., with laminated cellophane overwraps by Milprint, Inc., Milwaukee.

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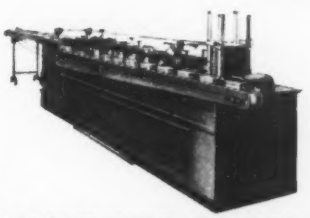

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ACETATE SHEET SCRAP WANTED—Top prices paid for clear transparent acetate sheeting scrap (NO TRI-ACETATE). Write: Davis Products, Dept. No. 5, Kearny, N.J., Phone: N.J.—WY 1-0980 N.Y.—BA 7-6421.

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SALES MANAGER To head newly created Division of Extrusion Coated and Laminated Products. Outstanding opportunity with America's Oldest Bag Manufacturer. Individual must be experienced in this line and will have wide latitude in establishing and managing national organization. Excellent salary and other benefits. Plastics Division, Chase Bag Company, 355 Lexington Avenue, New York 17, N.Y.

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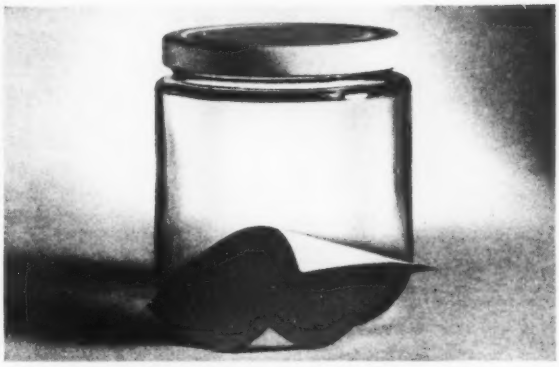
(and how the Arabol man helps you solve them)

1. THE LABEL CURLS — If this happens immediately after application, don't blame the adhesive. Such things as paper coating, grain, ink or die-cutting may be at fault. If you're stuck with a huge inventory (it always happens), your Arabol representative may be able to save the day by prescribing an adhesive with higher solids, for faster rate of set. Or perhaps he'll offer helpful suggestions on machine adjustment.



2. THE LABEL FALLS OFF — This usually happens at the worst time — after your bottle reaches the customer. There are two possible reasons: (1) a special silicone coating on the glass is preventing proper adhesion; or (2) if hot liquids are being packed, the adhesive is crystallizing before it forms its bond. The solution? Call your Arabol man. He'll have the formula adjusted so that you get proper adhesion.

3. THE LABEL BLISTERS — Spotty application of adhesive may be to blame. If so, your labeling machine probably needs adjustment. The *bottle* is often the culprit, too. Its surface may contain bulges or hollows. Or, once the adhesive is applied, the label's *printed* side may expand or contract at a different rate from the *underside*. Your Arabol man can usually make the diagnosis and prescribe the cure.

4. THE LABEL IS DISCOLORED — Sometimes unsightly spots appear immediately after the label has been applied. Or, they may crop up weeks later in storage, especially when humidity is high. Either way, something has happened to cause a chemical reaction between paper, ink and adhesive. The solution may call for an adjustment in your adhesive formulation. A problem like this requires some canny sleuthing, but your Arabol man is up to it.

THE BEST WAY to solve adhesive problems is to prevent them from happening. You can begin by telling us *all* the conditions your adhesive must meet—in your plant, in transit and after it reaches your customer. You may not be aware of how important some of these conditions are. To help you understand them more fully, we have prepared an interesting booklet that has saved many of our customers no end of aggravation—and money. It's called "HOW TO BUY ADHESIVES—23 BASIC YARDSTICKS." It makes interesting reading. Send for it today.

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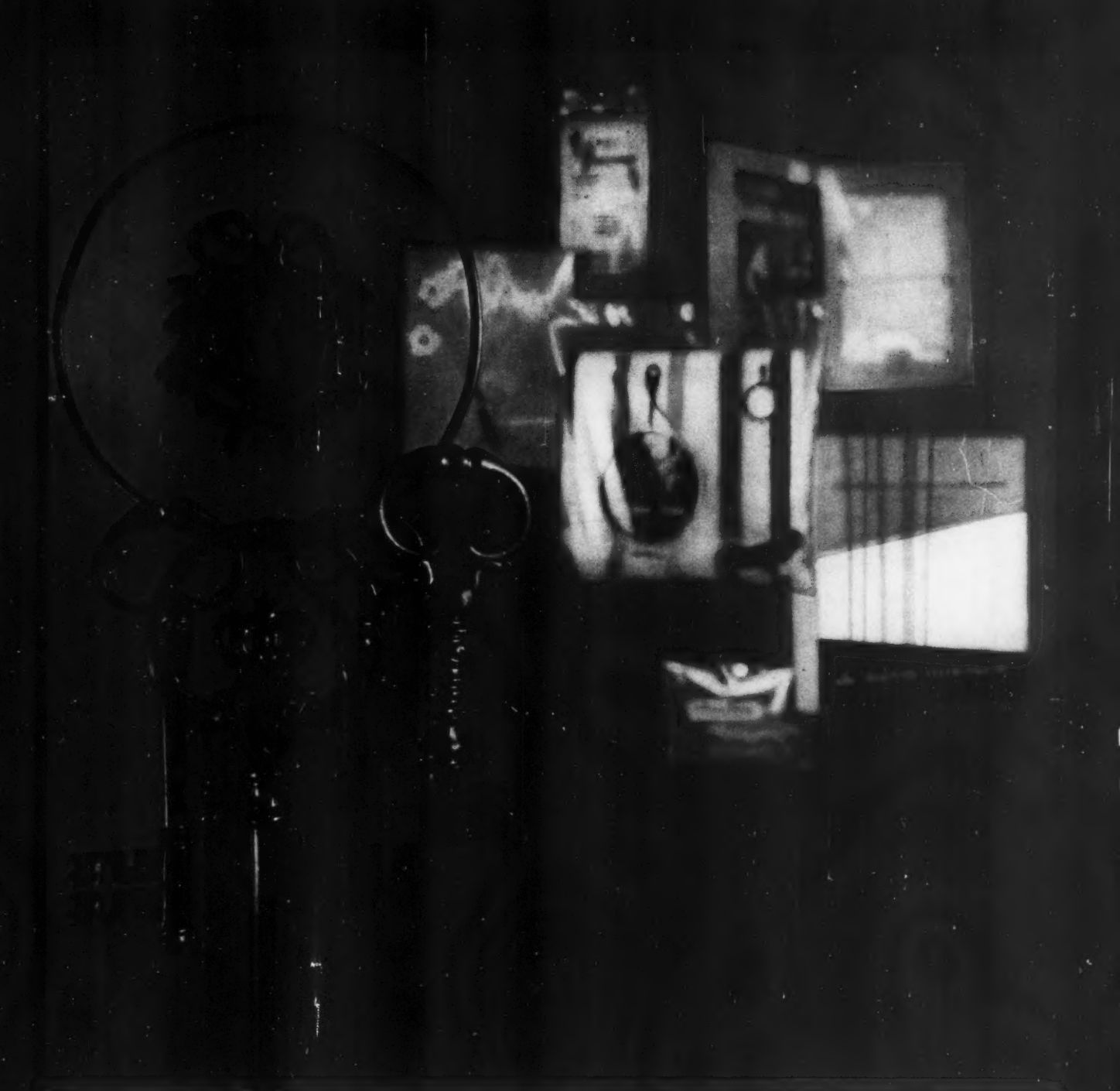

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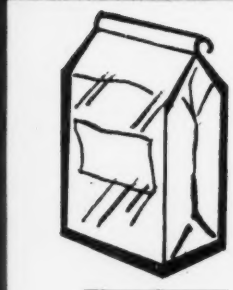

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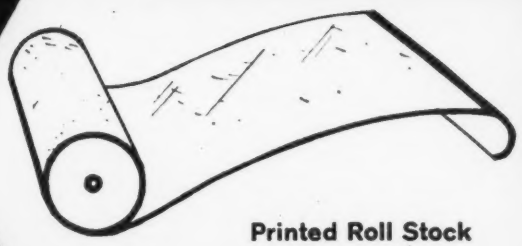

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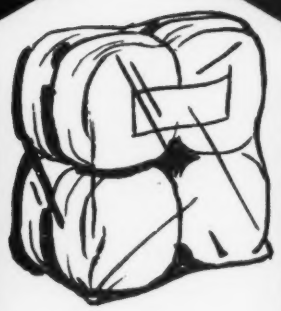

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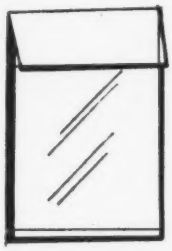

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